Appendix to the Global Burden of Viral Hepatitis 1990-2013

This appendix provides methodological details beyond those given in the core article, supplemental results, and citations for data sources used in the non-fatal and aetiological proportion models.

Contents

Appendix A: Methods

A.1: Overall modelling framework for GBD 2013

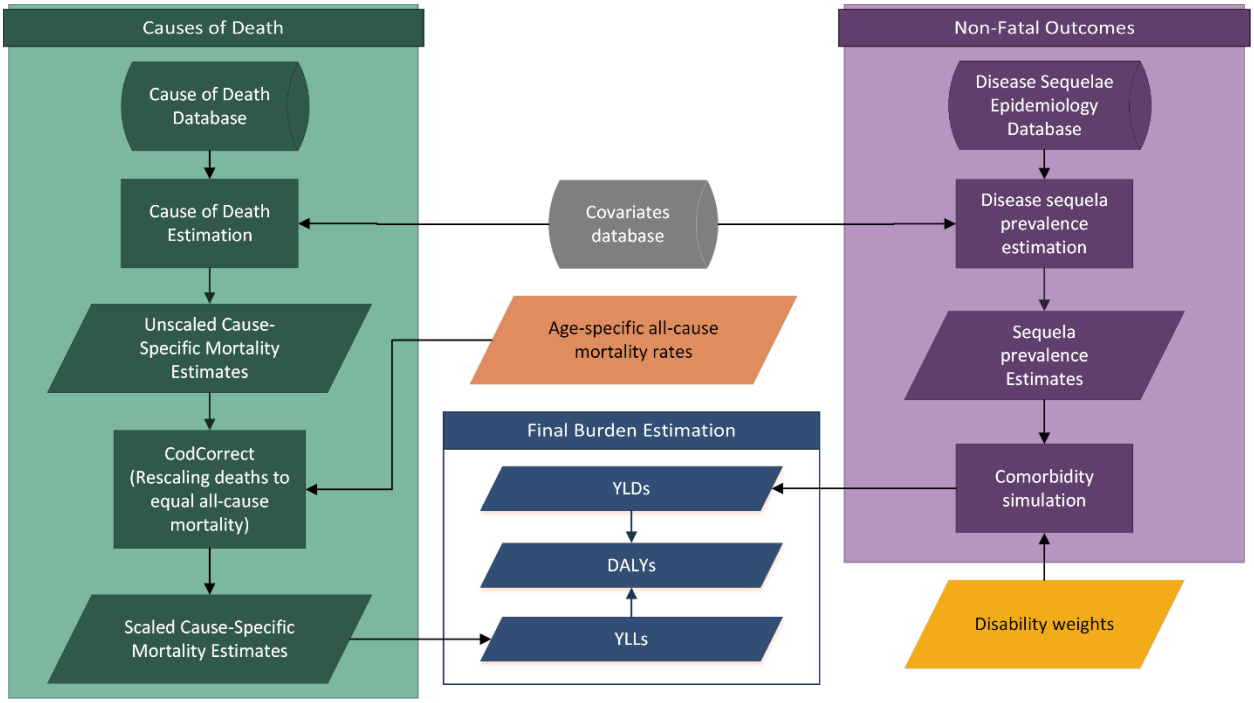

Figure S1: GBD 2013 data and model flow chart

A.2: Using DisMod to estimate acute infections

DisMod-MR produces consistent estimates of disease incidence, prevalence, remission, and mortality using a non-linear mixed effects model to bring together all available data on the descriptive epidemiology of the disease of interest. DisMod-MR is an integrative systems model, which combines a system dynamics model of process with a statistical model of data. In DisMod-MR 2.0, the model of process is a two compartment stock-and-flow model, described by two ordinary differential equations, with the age-specific flows between a "susceptible" and a "with-condition" population. The model of data is an offset log-normal model, with hierarchical random effects on geography, age-standardized to address age-group heterogeneity. DisMod-MR model results include estimates of seroprevalence and instantaneous seroconversion rates (i.e. the incidence of seroconversion among the seronegative population). We converted these instantaneous seroconversion rates to population incidence rates (i.e. the number of infections per number in the total population) using the formula,

$$\text{population incidence rate} = (\text{instantaneous seroconversion rate}) \cdot (1 - \text{seroprevalence})$$

A.3: Hepatitis B, chronic to acute conversion

HBsAg seropositivity typically persists only among chronic carriers and, by estimating incidence from a model of HBsAg seroprevalence, we are effectively modelling the incidence of HBV infections that result in chronic carriage. We, therefore, need to adjust these incidence estimates to estimate the incidence of all HBV infections (*i.e.* including those that result in chronic carriage and those that result in clearance). Knowing the proportion of infections that lead to the carrier state, we can simply divide our initial estimates by that proportion to estimate the total. It is clear, however, that this proportion varies enormously with age; so we must age-specific proportions to produce accurate estimates. Here, we use equations estimated by Edmunds et al[1] to calculate the probability that a new HBV infection will result in carriage, by age:

$$P(carrier \mid age \leq 6\ months) = 0.885$$

$$P(carrier \mid 6\ months \leq age < 25\ years) = e^{-0.645 \times age^{0.455}}$$

The oldest age group included in Edumunds's meta-analysis included people ages 20 to 30 years (treated as age = 25 years in their model). We are, therefore, not confident that their equation will hold for those older than 25 years of age, and take the conservative approach of assuming that the probability of developing the carrier state does not change with increasing age above 25 years:

$$P(carrier \mid age \geq 25\ years) = e^{-0.645 \times 25^{0.455}} = 0.061$$

A.4: Acute hepatitis, proportion symptomatic

We used published age-specific formulae to estimate the probability of symptomatic infection for HAV[2] and HEV[3]:

$$\text{P(Symptomatic} \mid \text{HAV)} = 0.852 \times (1 - e^{-0.01244 \times age^{1.903}})$$

$$\text{P(Symptomatic} \mid \text{HEV)} = Pr_{max} \times (1 - e^{-0.011 \times age^{1.86}})$$

Where Pr_{max} is the maximum probability of symptomatic acute infection among adults, and was assumed to be 0.6 [4].

For HBV we developed a non-linear model of the age-specific probability of symptomatic acute infection based on data from McMahon et al[5]:

$$\text{P(Symptomatic} \mid \text{HBV \& age} > 6\ \text{days)} = 0.098 + \frac{0.236}{1 + e^{-0.358 \times (age - 29.6)}}$$

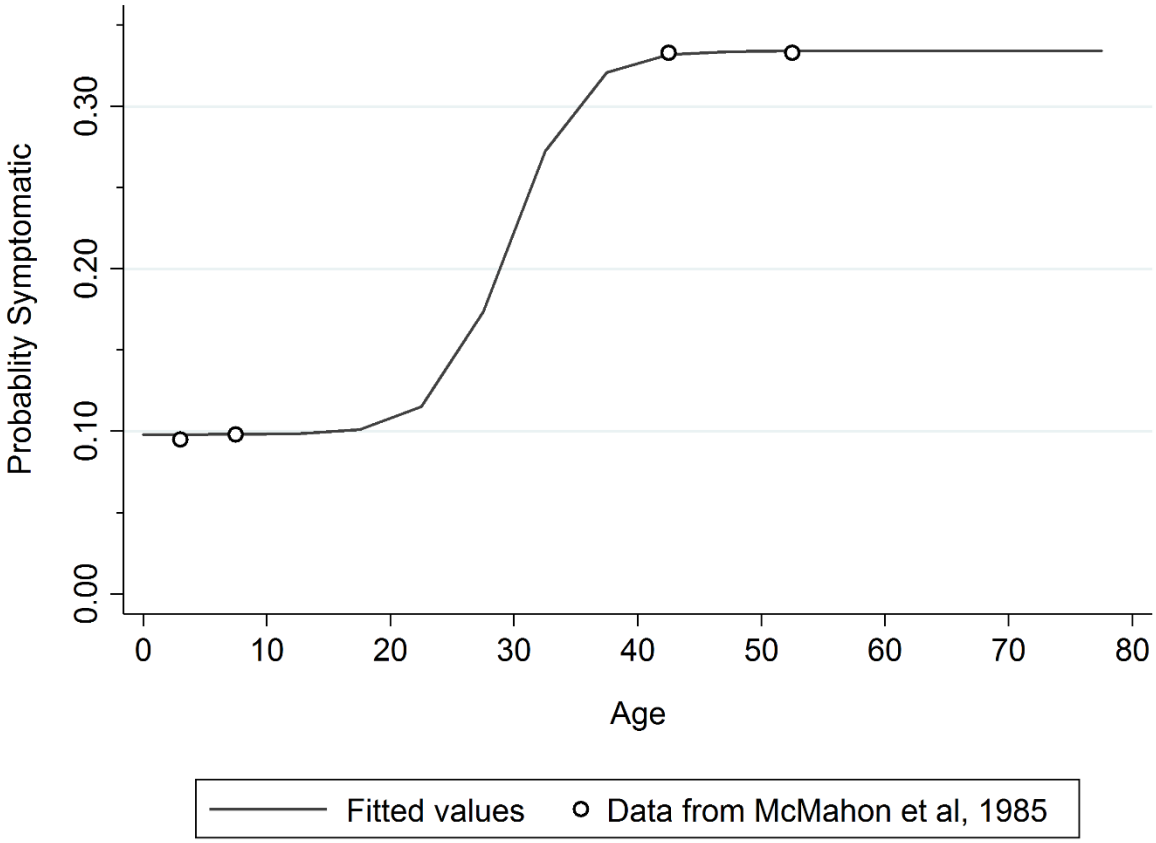

Figure S2: The probability that hepatitis B infection will result in chronic carriage, by age of infection

McMahon et al did not report the probability of symptomatic acute infections among perinatal cases, but it is known to be a rare outcome, occurring in approximately only 1% of perinatal infections.[6] We, therefore assumed a probability of symptomatic acute infection of 0.01 in the first week of life:

$$\mathrm{P}(\text{Symptomatic} \mid \text{HBV \& age} \leq 6 \text{ days}) = 0.01$$

For HCV, we assumed that 25% of acute infections would be symptomatic based on a combination of expert opinion and published estimates.[7]

A.5: Acute hepatitis E, case fatality

We estimated the prevalence of pregnancy, P_{preg}, among women for each country, year and age group based on age-specific fertility rates. We then estimated the acute hepatitis E case fatality among women as weighted average of the case fatalities among non-pregnant population, $CF_{non\text{-}preg}$, and among pregnant women, CF_{preg}:

$$CF_{total} = \left(CF_{preg} \times P_{preg}\right) + \left(CF_{non-preg} \times (1 - P_{preg})\right)$$

Where CF_{preg} was assumed to be 0.039 and $CF_{non\text{-}preg}$ was assumed to be 0.0038.[3] Case fatalities were assumed to be equal for males and non-pregnant females, or 0.38%.

A.6: Severity splits and disability weights

Symptomatic cases of acute HAV, HBV, HCV and HEV were split between mild, moderate and severe sequelae. Each sequela was assigned the disability of the most closely matching health state from the 235 GBD 2013 health states. For mild, moderate and severe acute hepatitis, these health states were "Infectious disease, acute episode, mild" (disability weight = 0.006 [0.002-0.012]), "Infectious disease, acute episode, moderate" (disability weight = 0.051 [0.032-0.074]) and "Infectious disease, acute episode, severe" (disability weight = 0.133 [0.088-0.19]), respectively.[8]

Table S1: Proportion of symptomatic cases assigned to each of the three severity states, with the mean disability weight, by sub-type.

Sub-type	Mild	Moderate	Severe	Mean Disability Weight
Hepatitis A	0.14	0.85	0.01	0.046
Hepatitis B	0.00	0.98	0.02	0.053
Hepatitis C	0.00	0.96	0.04	0.054
Hepatitis E	0.00	0.97	0.03	0.053

For liver cancer the person-years for the four general sequelae were estimated. Cases that die within ten years experience only three sequelae: diagnosis/treatment, metastatic phase and terminal phase. Cases that survive beyond ten years experience disability due to diagnosis and treatment and remission. Duration of sequela 1 (Diagnosis and treatment) was four months, sequela 2 (controlled phase) was ten years for the survivors minus the duration of the other sequelae. Duration of sequela 3 (disseminated phase) was based on SEER data for median survival of patients with stage IV liver cancer (2.51 months).[9]

A.7: CODEm models

We used the Cause-of-Death Ensemble Model (CODEm) tool to model mortality from cirrhosis, liver cancer, and all acute-hepatitides combined. For each cause, the modeller specifies a list of potential covariates that may help inform the model. CODEm then tests combinations of covariates, using both linear and spacetime models, and with both mortality rate and cause-fraction as possible dependent variables. Each of these separate models is considered a *sub-model*. Each sub-model is trained on 70% of the data and the remaining 30% are held out for out-of-sample prediction testing. The final predictions are based on combining results from multiple sub-models in which sub-models are weighted based on the out-of-sample prediction performance: the best performing sub-models have the strongest influence on the final predictions and poor performers have little or no influence. For each cause models are built separately for males and for females. Detailed information about CODEm was published previously.[10]

We used two models for liver cancer: one model that included data from all countries was used to estimate liver cancer mortality for developing countries; and one model that included only data from developed countries and was used to estimate liver cancer mortality for developed countries. Cancer data from developed countries are substantially better than from developing countries. The poorer data from developing countries produces greater uncertainty in all estimates and, thus, erroneously inflates the uncertainty in estimates for developed countries. The two-model approach avoids this problem and allows uncertainty to be correctly estimated in developed countries. There are therefore four liver cancer mortality models: separate all country models for males and females, and separate developed country models for males and females.

For cirrhosis, hepatitis and all-country liver cancer, both the male and female models included 55 sub-models each. The male and female developed country liver cancer models included 34 and 44 sub-models, respectively. The model types and dependent variables for these sub-models are given in Table S2. The potential covariates for each cause, and the number of included sub-models that contained each covariate, are given in Table S3.

Table S2: The number of sub-models in which the dependent variable was cause-fraction versus mortality rate, by model type, for each cause and sex.

			Dependent Variable		
	Sex	**Model Type**	**Cause Fraction**	**Rate**	**Both**
Cirrhosis					
	Females	Linear	13	0	13
		Spacetime	42	0	42
		Both	55	0	55
	Males	Linear	13	0	13
		Spacetime	42	0	42
		Both	55	0	55
Hepatitis					
	Females	Linear	0	0	0
		Spacetime	24	31	55
		Both	24	31	55
	Males	Linear	0	0	0
		Spacetime	20	35	55
		Both	20	35	55
Liver Cancer (all countries)					
	Females	Linear	6	20	26
		Spacetime	6	23	29
		Both	12	43	55
	Males	Linear	3	11	14
		Spacetime	10	31	41
		Both	13	42	55
Liver Cancer (developing countries)					
	Females	Linear	8	14	22
		Spacetime	8	14	22
		Both	16	28	44
	Males	Linear	7	10	17
		Spacetime	7	10	17
		Both	14	20	34

Table S3: The number of models in which each covariate was used, among those models that were included in the final ensemble. For each cause-covariate combination, we give the number of models for which that covariate was included and, in parentheses, the percent of all models in the ensemble that contained that covariate. Hyphens ("-") indicate that a given covariate was not specified as a potential covariate for that cause (i.e. sanitation was considered as a potential covariate in the cirrhosis model); whereas, zeros indicate that the covariate was included as a potential predictor for that cause, but that none of the models that included that covariate performed well enough to be included in the final ensemble.

	Cirrhosis		Hepatitis		Liver Cancer (all countries)		Liver Cancer (developed)	
Covariate	**Females**	**Males**	**Females**	**Males**	**Females**	**Males**	**Females**	**Males**
Alcohol (liters per capita)	25 (45.5)	26 (47.3)	-	-	35 (63.6)	35 (63.6)	26 (59.1)	12 (35.3)
Animal fat (kcal per capita)	-	-	-	-	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
BMI (mean)	17 (30.9)	18 (32.7)	-	-	6 (10.9)	29 (52.7)	6 (13.6)	6 (17.6)
Cigarettes per capita	-	-	-	-	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Cumulative cigarettes (15 year)	-	-	-	-	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Cumulative cigarettes (20 year)	-	-	-	-	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Diabetes prevalence	10 (18.2)	18 (32.7)	-	-	28 (50.9)	8 (14.5)	6 (13.6)	8 (23.5)
Education (years per capita)	21 (38.2)	19 (34.5)	33 (60.0)	16 (29.1)	20 (36.4)	13 (23.6)	14 (31.8)	14 (41.2)
Health system access	0 (0.0)	0 (0.0)	1 (1.8)	1 (1.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Hepatitis A seroprevalence	-	-	18 (32.7)	10 (18.2)	-	-	-	-
Hepatitis B seroprevalence	0 (0.0)	9 (16.4)	34 (61.8)	29 (52.7)	20 (36.4)	21 (38.2)	16 (36.4)	14 (41.2)
Hepatitis C seroprevalence	34 (61.8)	32 (58.2)	19 (34.5)	22 (40.0)	28 (50.9)	33 (60.0)	28 (63.6)	16 (47.1)
Hepatitis E seroprevalence	-	-	19 (34.5)	28 (50.9)	-	-	-	-
Log-lag distributed income (LDI), per capita	16 (29.1)	22 (40.0)	23 (41.8)	18 (32.7)	13 (23.6)	16 (29.1)	0 (0.0)	0 (0.0)
Red meat (kcal per capital)	-	-	-	-	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Sanitation (proportion with access)	-	-	23 (41.8)	14 (25.5)	-	-	-	-
Schistosomiasis prevalence	36 (65.5)	26 (47.3)	-	-	-	-	-	-
Water (proportion with access to improved source)	-	-	13 (23.6)	17 (30.9)	-	-	-	-

A.8: Aetiology splits

We conducted literature reviews for studies that reported the prevalence of risk factors among those with cirrhosis or liver cancer. From each study we extracted the proportion of participants with evidence of chronic HBV infection, chronic HCV infection, history of excessive alcohol use, or other identifiable causes (e.g. non-alcoholic steatohepatitis (NASH), genetic causes). We excluded those with cryptogenic disease. In many studies some proportion of participants

present with multiple possible aetiologies (e.g. an individual with cirrhosis may be infected with both HBV and HCV). Unfortunately, data on comorbidities were too sparse to model each combination of aetiologies as separate aetiological entities. We therefore attempted to assign each case to a single cause. Where a study reports patients with multiple aetiologies, we split those patients between the possible aetiologies proportionally. As an example, we'll take a hypothetical study of 100 cirrhosis patients that reported 60 patients having a chronic hepatitis infection: 20 with HBV, 30 with HCV, and 10 with both HBV and HCV. We would split those 10 patients between HBV and HCV in a 20:30 ratio, giving us a 24 patients with cirrhosis due to HBV and 36 patients with cirrhosis due to HCV.

For both cirrhosis and liver cancer, we run four separate DisMod models corresponding to each of the four potential aetiologies (i.e. alcohol, HBV, HCV, and other). Within each age, sex, year and location, we rescale the four proportion estimates to ensure that they sum to one, by dividing each proportion by the sum of the four.

A.9: Uncertainty

We propagate uncertainty through the modeling chain using posterior simulation. For all estimates we take 1,000 draws from the posterior distribution of the estimate. We then perform all subsequent calculations at the draw-level. For example, for the natural history model of acute hepatitis B deaths, for each age-sex-location-year, we take 1,000 random draws from the posterior distribution of our incidence estimate, and 1,000 random draws from the distribution of our estimate of case-fatality (based on a beta distribution). We then calculate 1,000 mortality rate draws, where draw one is equal to the product of the first incidence draw and the first case-fatality draw. The mean of the 1,000 draws is then taken as the point estimate; the 2.5^{th} and 97.5^{th} percentile draws are taken as the lower and upper bounds of the 95% uncertainty interval.

A.10: Trend Decomposition

We decomposed overall trends in DALYs to determine the effects of population growth, changes in age-structure, and changes in age-specific rates using a counterfactual approach. We estimated a counterfactual estimate of the effect of population growth by taking the product of the all-age DALY rates for 1990 and the total 2013 population size:

$$DALYs_{growth} = \frac{DALYs_{1990}}{pop_{1990}} \times pop_{2013}$$

Where $DALYs_{growth}$ is the counterfactual estimate of the number of DALYs expected to have occurred in 2013 if only the population size changed (i.e. no changes in age-specific rates or age-structure); $DALYS_{1990}$ is our estimate of the number of DALYs that occurred in 1990; and pop_{1990} and pop_{2013} are the total number of people in the population in 1990 and 2013, respectively.

Next, we estimated a counterfactual estimate of the number of DALYs that we expect to have occurred if only population size and age-structure changed, but age-specific rates remained static:

$$DALYs_{demog} = \sum_{s=1}^{2} \sum_{a=1}^{20} \frac{DALYs_{1990_{as}} \times pop_{2013_{as}}}{pop_{1990_{as}}}$$

Where $DALYs_{demog}$ is the counterfactual estimate of the number of DALYs expected given only demographic changes; $DALYs_{1990_{as}}$ is our estimate of the number of DALYs that occurred in 1990 in age-group, *a*, and sex, *s*; and $pop_{1990_{as}}$ and $pop_{2013_{as}}$ are the number of people in the population in age-group, *a*, sex, *s*, in 1990 and 2013, respectively.
The change in DALYs attributable to population growth between 1990 and 2013 was calculated:

$$\Delta DALYs_{growth} = DALYs_{growth} - DALYs_{1990}$$

The change in DALYs attributable to overall demographic changes, including population growth and changes in age structure were calculated as,

$$\Delta DALYs_{demog} = DALYs_{demog} - DALYs_{1990}$$

The change in DALYs attributable to changes in age structure were calculated as,

$$\Delta DALYs_{age} = \Delta DALYs_{demog} - \Delta DALYs_{growth}$$

The total actual change in DALYs was calculated as,

$$\Delta DALYs_{total} = DALYs_{2013} - DALYs_{1990}$$

Finally, the change in DALYs attributable to changes in age-specific rates was calculated as,

$$\Delta DALYs_{rates} = DALYs_{total} - DALYs_{demog}$$

For each of the above components of change, we estimated percent change by dividing absolute change by the number of DALYs in 1990.

A.11: Age-standardization

Age-standardized rates were calculated by applying the age-specific rates for each location, sex and year to a standard population, using the equation,

$$r_{ly}{}' = \sum_{s=1}^{2} \sum_{a=1}^{20} r_{lyas} \times w_{as}$$

Where r_{ly}' is the age-standardized rate in location, *l*, and year, *y*; r_{lyas} is the age-specific rate in location, *l*, year, *y*, age, *a*, and sex, *s*; and w_{as} is the standard weight for age group, *a*, and sex, *s*.

Appendix B: Supplemental Results

Table S4: Age-standardized rates of deaths, YLLs, YLDs and DALYs (per 100,000 person-years) attributable to viral hepatitis, by year with 95% uncertainty intervals in parentheses.

Year	Deaths (per 100k)	YLLs (per 100k)	YLDs (per 100k)	DALYs (per 100k)
1990	22.6 (21.6, 23.6)	689.4 (657.8, 723.9)	13.6 (9.4, 18.5)	703.0 (671.2, 738.5)
1995	23.6 (22.7, 24.4)	703.8 (678.1, 730.7)	13.3 (9.3, 18.1)	717.1 (689.9, 743.6)
2000	24.0 (23.2, 24.9)	691.7 (667.7, 718.9)	13.3 (9.4, 18.1)	704.9 (680.0, 733.2)
2005	23.6 (22.8, 24.7)	664.4 (639.9, 696.7)	13.1 (9.2, 17.7)	677.5 (652.1, 709.5)
2010	23.0 (22.1, 24.4)	628.2 (600.4, 674.1)	12.9 (9.1, 17.3)	641.2 (612.0, 687.4)
2013	22.6 (21.5, 23.9)	609.5 (574.1, 652.9)	12.5 (8.8, 16.8)	622.0 (585.3, 667.1)

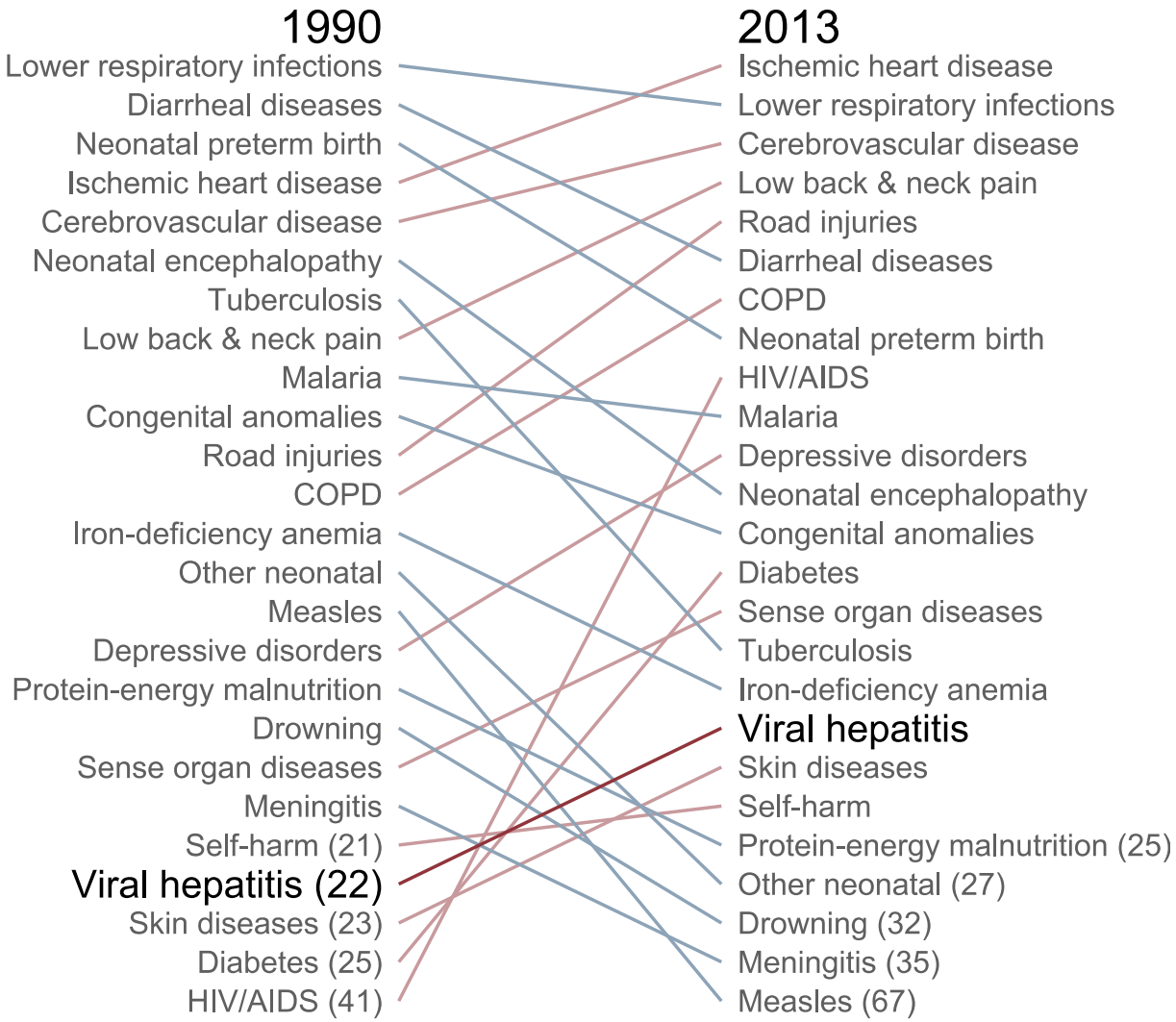

Figure S3: Top 20 causes of DALYs for 1990 and 2013 (blue lines indicate decreased ranking, red lines indicate increased ranking)

Table S5: Rankings for deaths, YLLs, YLDs and DALYs attributable to viral hepatitis, by year, with 95% uncertainty intervals in parentheses.

Year	Deaths	YLLs	YLDs	DALYs
1990	10 (10, 12)	18 (16, 20)	74 (72, 76)	22 (20, 25)
1995	11 (10, 12)	18 (15, 19)	74 (73, 77)	21 (19, 25)
2000	11 (10, 12)	15 (14, 16.5)	75 (73, 78)	20 (16, 22)
2005	11 (10, 12)	13 (13, 15)	76 (73, 79)	18 (15, 20)
2010	9 (8, 11)	13 (12, 14)	77 (73, 80)	18 (16, 20)
2013	7 (7, 8)	13 (11, 14)	76 (73, 80)	18 (16, 20)

Table S6: The proportion of viral hepatitis deaths, YLLs, YLDs and DALYs attributable to each virus, by year, with 95% uncertainty intervals in parentheses.

Year	Etiology	Deaths	YLLs	YLDs	DALYs
1990	Hepatitis A	0.025 (0.009, 0.044)	0.057 (0.021, 0.100)	0.240 (0.205, 0.275)	0.061 (0.025, 0.103)
	Hepatitis B	0.578 (0.554, 0.605)	0.571 (0.532, 0.611)	0.501 (0.485, 0.518)	0.569 (0.531, 0.609)
	Hepatitis C	0.338 (0.324, 0.352)	0.274 (0.261, 0.286)	0.189 (0.159, 0.220)	0.272 (0.259, 0.285)
	Hepatitis E	0.058 (0.043, 0.075)	0.098 (0.074, 0.126)	0.070 (0.060, 0.079)	0.098 (0.074, 0.124)
1995	Hepatitis A	0.024 (0.009, 0.041)	0.056 (0.022, 0.094)	0.242 (0.204, 0.279)	0.059 (0.026, 0.097)
	Hepatitis B	0.558 (0.535, 0.579)	0.554 (0.518, 0.590)	0.484 (0.466, 0.502)	0.552 (0.517, 0.588)
	Hepatitis C	0.363 (0.352, 0.376)	0.296 (0.284, 0.307)	0.206 (0.174, 0.237)	0.294 (0.283, 0.306)
	Hepatitis E	0.054 (0.040, 0.071)	0.095 (0.072, 0.121)	0.069 (0.059, 0.079)	0.094 (0.072, 0.120)
2000	Hepatitis A	0.019 (0.007, 0.033)	0.044 (0.016, 0.074)	0.236 (0.199, 0.275)	0.048 (0.021, 0.078)
	Hepatitis B	0.541 (0.521, 0.560)	0.545 (0.515, 0.575)	0.473 (0.456, 0.491)	0.543 (0.514, 0.573)
	Hepatitis C	0.394 (0.384, 0.407)	0.331 (0.319, 0.345)	0.224 (0.190, 0.257)	0.329 (0.317, 0.343)
	Hepatitis E	0.045 (0.034, 0.060)	0.080 (0.061, 0.103)	0.067 (0.057, 0.077)	0.080 (0.061, 0.103)
2005	Hepatitis A	0.014 (0.005, 0.025)	0.033 (0.013, 0.059)	0.231 (0.195, 0.271)	0.037 (0.017, 0.062)
	Hepatitis B	0.510 (0.491, 0.528)	0.518 (0.491, 0.543)	0.459 (0.444, 0.474)	0.517 (0.491, 0.542)
	Hepatitis C	0.438 (0.424, 0.454)	0.382 (0.365, 0.399)	0.247 (0.211, 0.283)	0.379 (0.363, 0.396)
	Hepatitis E	0.038 (0.028, 0.050)	0.067 (0.051, 0.086)	0.063 (0.053, 0.072)	0.067 (0.051, 0.085)
2010	Hepatitis A	0.011 (0.004, 0.021)	0.027 (0.010, 0.049)	0.225 (0.185, 0.265)	0.031 (0.015, 0.053)
	Hepatitis B	0.479 (0.456, 0.500)	0.497 (0.469, 0.524)	0.452 (0.435, 0.470)	0.496 (0.469, 0.522)
	Hepatitis C	0.473 (0.454, 0.494)	0.411 (0.389, 0.432)	0.262 (0.226, 0.297)	0.408 (0.386, 0.429)
	Hepatitis E	0.036 (0.027, 0.047)	0.065 (0.050, 0.083)	0.062 (0.052, 0.072)	0.065 (0.050, 0.082)
2013	Hepatitis A	0.010 (0.003, 0.019)	0.024 (0.008, 0.044)	0.226 (0.187, 0.265)	0.029 (0.013, 0.048)
	Hepatitis B	0.472 (0.449, 0.493)	0.486 (0.460, 0.513)	0.438 (0.423, 0.454)	0.485 (0.459, 0.512)
	Hepatitis C	0.484 (0.464, 0.504)	0.428 (0.405, 0.450)	0.271 (0.231, 0.312)	0.425 (0.402, 0.447)
	Hepatitis E	0.034 (0.025, 0.046)	0.062 (0.046, 0.081)	0.064 (0.054, 0.076)	0.062 (0.046, 0.080)

Table S7: The proportion of viral hepatitis deaths, YLLs, YLDs and DALYs attributable to each cause, by year, with 95% uncertainty intervals

Year	Cause	Deaths	YLLs	YLDs	DALYs
1990	Acute hepatitis A	0.025 (0.009, 0.044)	0.057 (0.021, 0.100)	0.240 (0.205, 0.275)	0.061 (0.025, 0.103)
	Acute hepatitis B	0.095 (0.074, 0.116)	0.131 (0.093, 0.170)	0.258 (0.224, 0.291)	0.134 (0.097, 0.172)
	Acute hepatitis C	0.003 (0.001, 0.006)	0.003 (0.001, 0.007)	0.022 (0.020, 0.025)	0.003 (0.001, 0.008)
	Acute hepatitis E	0.058 (0.043, 0.075)	0.098 (0.074, 0.126)	0.070 (0.060, 0.079)	0.098 (0.074, 0.124)
	Cirrhosis of the liver due to hepatitis B	0.261 (0.251, 0.273)	0.238 (0.227, 0.250)	0.182 (0.146, 0.219)	0.237 (0.226, 0.249)
	Cirrhosis of the liver due to hepatitis C	0.238 (0.224, 0.252)	0.200 (0.188, 0.212)	0.139 (0.112, 0.167)	0.199 (0.187, 0.211)
	Liver cancer due to hepatitis B	0.222 (0.209, 0.234)	0.201 (0.188, 0.214)	0.061 (0.048, 0.077)	0.198 (0.185, 0.211)
	Liver cancer due to hepatitis C	0.098 (0.090, 0.104)	0.070 (0.065, 0.075)	0.028 (0.022, 0.035)	0.069 (0.064, 0.074)
1995	Acute hepatitis A	0.024 (0.009, 0.041)	0.056 (0.022, 0.094)	0.242 (0.204, 0.279)	0.059 (0.026, 0.097)
	Acute hepatitis B	0.082 (0.063, 0.101)	0.112 (0.079, 0.148)	0.229 (0.195, 0.260)	0.114 (0.082, 0.149)
	Acute hepatitis C	0.002 (0.000, 0.005)	0.003 (0.001, 0.006)	0.022 (0.019, 0.025)	0.003 (0.001, 0.007)
	Acute hepatitis E	0.054 (0.040, 0.071)	0.095 (0.072, 0.121)	0.069 (0.059, 0.079)	0.094 (0.072, 0.120)
	Cirrhosis of the liver due to hepatitis B	0.249 (0.235, 0.261)	0.233 (0.220, 0.244)	0.188 (0.154, 0.225)	0.232 (0.219, 0.243)
	Cirrhosis of the liver due to hepatitis C	0.231 (0.221, 0.241)	0.198 (0.189, 0.207)	0.145 (0.117, 0.172)	0.197 (0.188, 0.206)
	Liver cancer due to hepatitis B	0.227 (0.217, 0.237)	0.209 (0.199, 0.220)	0.067 (0.053, 0.083)	0.207 (0.196, 0.217)
	Liver cancer due to hepatitis C	0.130 (0.122, 0.139)	0.095 (0.088, 0.102)	0.039 (0.031, 0.048)	0.094 (0.087, 0.101)
2000	Acute hepatitis A	0.019 (0.007, 0.033)	0.044 (0.016, 0.074)	0.236 (0.199, 0.275)	0.048 (0.021, 0.078)
	Acute hepatitis B	0.071 (0.055, 0.087)	0.092 (0.064, 0.122)	0.216 (0.184, 0.247)	0.094 (0.067, 0.124)
	Acute hepatitis C	0.003 (0.001, 0.006)	0.003 (0.001, 0.007)	0.020 (0.018, 0.023)	0.003 (0.001, 0.007)
	Acute hepatitis E	0.045 (0.034, 0.060)	0.080 (0.061, 0.103)	0.067 (0.057, 0.077)	0.080 (0.061, 0.103)
	Cirrhosis of the liver due to hepatitis B	0.240 (0.230, 0.250)	0.232 (0.221, 0.244)	0.186 (0.153, 0.222)	0.231 (0.220, 0.243)
	Cirrhosis of the liver due to hepatitis C	0.228 (0.217, 0.240)	0.206 (0.195, 0.217)	0.151 (0.124, 0.180)	0.204 (0.194, 0.216)
	Liver cancer due to hepatitis B	0.230 (0.220, 0.240)	0.221 (0.210, 0.232)	0.071 (0.057, 0.087)	0.218 (0.206, 0.229)
	Liver cancer due to hepatitis C	0.164 (0.154, 0.173)	0.123 (0.114, 0.130)	0.052 (0.041, 0.063)	0.121 (0.112, 0.129)
2005	Acute hepatitis A	0.014 (0.005, 0.025)	0.033 (0.013, 0.059)	0.231 (0.195, 0.271)	0.037 (0.017, 0.062)
	Acute hepatitis B	0.055 (0.042, 0.068)	0.070 (0.049, 0.094)	0.204 (0.173, 0.235)	0.072 (0.052, 0.096)
	Acute hepatitis C	0.002 (0.000, 0.005)	0.003 (0.001, 0.007)	0.020 (0.017, 0.023)	0.003 (0.001, 0.007)
	Acute hepatitis E	0.038 (0.028, 0.050)	0.067 (0.051, 0.086)	0.063 (0.053, 0.072)	0.067 (0.051, 0.085)
	Cirrhosis of the liver due to hepatitis B	0.236 (0.225, 0.249)	0.237 (0.225, 0.250)	0.183 (0.150, 0.215)	0.236 (0.224, 0.249)
	Cirrhosis of the liver due to hepatitis C	0.243 (0.232, 0.254)	0.228 (0.215, 0.240)	0.163 (0.134, 0.194)	0.227 (0.213, 0.239)
	Liver cancer due to hepatitis B	0.219 (0.206, 0.230)	0.211 (0.197, 0.223)	0.072 (0.057, 0.087)	0.208 (0.194, 0.220)
	Liver cancer due to hepatitis C	0.193 (0.183, 0.206)	0.151 (0.141, 0.163)	0.064 (0.051, 0.077)	0.150 (0.140, 0.161)
2010	Acute hepatitis A	0.011 (0.004, 0.021)	0.027 (0.010, 0.049)	0.225 (0.185, 0.265)	0.031 (0.015, 0.053)
	Acute hepatitis B	0.049 (0.037, 0.061)	0.062 (0.044, 0.084)	0.186 (0.157, 0.216)	0.064 (0.046, 0.086)
	Acute hepatitis C	0.002 (0.000, 0.005)	0.003 (0.001, 0.006)	0.019 (0.016, 0.022)	0.003 (0.001, 0.007)
	Acute hepatitis E	0.036 (0.027, 0.047)	0.065 (0.050, 0.083)	0.062 (0.052, 0.072)	0.065 (0.050, 0.082)
	Cirrhosis of the liver due to hepatitis B	0.226 (0.212, 0.239)	0.232 (0.217, 0.249)	0.192 (0.159, 0.226)	0.232 (0.216, 0.248)
	Cirrhosis of the liver due to hepatitis C	0.245 (0.230, 0.259)	0.229 (0.213, 0.245)	0.163 (0.135, 0.192)	0.228 (0.212, 0.243)
	Liver cancer due to hepatitis B	0.204 (0.190, 0.216)	0.203 (0.188, 0.216)	0.074 (0.060, 0.089)	0.200 (0.185, 0.213)
	Liver cancer due to hepatitis C	0.226 (0.212, 0.242)	0.179 (0.166, 0.194)	0.079 (0.064, 0.096)	0.177 (0.164, 0.192)
2013	Acute hepatitis A	0.010 (0.003, 0.019)	0.024 (0.008, 0.044)	0.226 (0.187, 0.265)	0.029 (0.013, 0.048)
	Acute hepatitis B	0.047 (0.036, 0.059)	0.058 (0.041, 0.079)	0.197 (0.167, 0.229)	0.061 (0.044, 0.082)
	Acute hepatitis C	0.002 (0.001, 0.006)	0.003 (0.001, 0.007)	0.019 (0.016, 0.022)	0.003 (0.001, 0.007)
	Acute hepatitis E	0.034 (0.025, 0.046)	0.062 (0.046, 0.081)	0.064 (0.054, 0.076)	0.062 (0.046, 0.080)
	Cirrhosis of the liver due to hepatitis B	0.218 (0.204, 0.232)	0.223 (0.207, 0.239)	0.164 (0.136, 0.195)	0.221 (0.206, 0.237)
	Cirrhosis of the liver due to hepatitis C	0.246 (0.231, 0.263)	0.236 (0.221, 0.254)	0.166 (0.137, 0.199)	0.234 (0.220, 0.252)
	Liver cancer due to hepatitis B	0.206 (0.193, 0.219)	0.205 (0.191, 0.218)	0.077 (0.061, 0.094)	0.202 (0.189, 0.215)
	Liver cancer due to hepatitis C	0.236 (0.221, 0.252)	0.190 (0.175, 0.207)	0.086 (0.069, 0.105)	0.188 (0.173, 0.205)

Table S8: Age-standardized rates of deaths, YLLs, YLDs and DALYs (per 100,000 person-years) attributable to viral hepatitis by region, 2013 with 95% uncertainty intervals.

Region	Deaths (per 100k)	YLLs (per 100k)	YLDs (per 100k)	DALYs (per 100k)
Asia Pacific, High-income	22.5 (19.4, 27.8)	483.4 (406.8, 610.5)	9.5 (6.7, 12.9)	492.9 (415.7, 621.3)
Asia, Central	36.7 (33.9, 40.6)	1,014.6 (932.1, 1,127.1)	19.3 (13.5, 26.0)	1,033.9 (952.4, 1,148.3)
Asia, East	30.4 (27.0, 33.5)	759.3 (668.5, 844.9)	16.4 (11.5, 21.9)	775.7 (686.0, 861.9)
Asia, South	24.4 (21.3, 28.5)	738.8 (644.6, 882.9)	11.8 (8.3, 16.1)	750.6 (656.8, 895.0)
Asia, Southeast	28.2 (25.2, 31.7)	695.5 (608.2, 794.0)	13.0 (9.2, 17.4)	708.4 (622.5, 806.6)
Australasia	7.2 (5.9, 8.3)	166.6 (140.3, 190.4)	6.5 (4.4, 9.0)	173.0 (146.2, 197.6)
Caribbean	12.1 (10.9, 13.6)	279.0 (250.2, 316.8)	7.3 (5.1, 10.0)	286.3 (257.1, 323.2)
Europe, Central	13.3 (12.1, 14.3)	347.2 (314.3, 372.9)	10.3 (7.3, 14.0)	357.6 (323.4, 384.3)
Europe, Eastern	15.4 (13.9, 17.6)	495.8 (439.4, 569.7)	11.2 (7.8, 15.3)	507.0 (451.1, 580.1)
Europe, Western	10.7 (9.7, 11.7)	244.3 (220.9, 266.8)	7.3 (5.2, 9.9)	251.6 (227.4, 274.7)
Latin America, Andean	20.7 (18.0, 23.7)	451.5 (385.5, 523.6)	7.5 (5.3, 10.3)	459.0 (392.8, 531.4)
Latin America, Central	18.9 (18.1, 19.8)	425.3 (406.1, 446.2)	8.6 (6.0, 11.6)	433.9 (413.8, 455.6)
Latin America, Southern	13.1 (11.6, 14.7)	311.0 (268.9, 351.9)	6.8 (4.7, 9.3)	317.7 (275.3, 359.3)
Latin America, Tropical	12.4 (10.1, 14.8)	308.2 (256.5, 370.2)	6.8 (4.6, 9.2)	315.0 (262.5, 377.9)
North Africa / Middle East	31.4 (29.0, 34.0)	690.7 (632.6, 756.1)	12.9 (9.1, 17.5)	703.7 (644.5, 769.3)
North America, High Income	10.1 (8.4, 12.0)	262.1 (219.1, 313.8)	6.4 (4.4, 8.7)	268.5 (225.2, 320.4)
Oceania	42.2 (27.7, 60.8)	1,352.9 (866.8, 2,018.9)	15.6 (10.8, 21.4)	1,368.5 (878.8, 2,034.2)
Sub-Saharan Africa, Central	25.3 (21.5, 29.5)	670.7 (565.3, 783.0)	15.4 (10.6, 20.9)	686.1 (580.0, 797.8)
Sub-Saharan Africa, East	20.4 (18.8, 22.1)	522.5 (477.0, 570.6)	14.3 (10.0, 19.4)	536.8 (490.5, 584.5)
Sub-Saharan Africa, Southern	9.8 (8.6, 11.3)	250.1 (217.8, 287.4)	10.1 (6.9, 14.0)	260.2 (227.7, 297.7)
Sub-Saharan Africa, West	35.0 (30.9, 39.3)	911.9 (801.3, 1,028.0)	18.8 (13.2, 25.4)	930.7 (819.6, 1,047.1)

Table S9: Combined viral hepatitis ranking in terms of deaths, YLLs, YLDs and DALYs by region, 2013 with 95% uncertainty intervals

Region	Deaths	YLLs	YLDs	DALYs
Asia Pacific, High Income	6 (5, 8)	5 (2, 7)	65 (57, 67)	7 (4, 13)
Asia, Central	4 (4, 4)	5 (5, 7)	55 (51.5, 56)	8 (6, 10)
Asia, East	5 (5, 5)	4 (4, 6)	55 (51, 57)	6 (6, 9)
Asia, South	12 (9, 14)	13 (11, 15)	72 (70, 74)	18 (14, 21)
Asia, Southeast	7 (6, 8)	8 (6, 10)	70 (67, 72)	12 (10, 17)
Australasia	16 (14, 21)	11 (11, 16)	74 (70, 80)	27 (25, 35)
Caribbean	16 (14, 19)	20 (18, 25)	76 (74, 78)	34 (29, 39)
Europe, Central	10 (10, 13)	8 (7, 11)	65 (61, 67)	17 (14.5, 20)
Europe, Eastern	10 (9, 12)	7 (7, 11)	65 (61, 67)	13 (11, 19)
Europe, Western	13 (11, 15)	10 (8, 10)	68 (66, 72)	21 (17, 25)
Latin America, Andean	9 (8, 10)	12 (10, 16)	77 (74, 80)	22 (20, 27)
Latin America, Central	11 (10, 11)	12 (12, 13)	77 (72, 78)	20 (17, 23)
Latin America, Southern	15 (11, 16)	14 (10, 16)	76 (75, 79)	25 (20, 28)
Latin America, Tropical	13 (11, 17)	13 (10, 16)	72 (69, 76)	24 (19, 29)
North Africa / Middle East	5 (4, 6)	7 (7, 8)	63 (60, 66)	16 (12, 18)
North America, High Income	12 (10, 17)	11 (8, 14)	78 (75, 81)	21 (19, 28)
Oceania	8 (7, 10)	5 (5, 13)	62 (61, 66)	8 (5, 17)
Sub-Saharan Africa, Central	23 (18, 25)	25 (22, 31)	73 (70, 75)	32 (28, 39)
Sub-Saharan Africa, East	20 (19, 23)	24 (22, 26)	74 (72, 76)	32 (29, 36)
Sub-Saharan Africa, Southern	29 (25, 31.5)	30 (28, 34)	76 (75, 78)	41 (38, 48)
Sub-Saharan Africa, West	16 (15, 17)	18 (17, 21)	70 (65, 71)	23 (20, 26)

Table S10: The proportion of viral hepatitis deaths, YLLs, YLDs and DALYs attributable to each virus, by region, 2013 with 95% uncertainty intervals

Region	Etiology	Deaths	YLLs	YLDs	DALYs
Asia Pacific, High-income	Hepatitis A	0.000 (0.000, 0.001)	0.001 (0.000, 0.001)	0.152 (0.110, 0.199)	0.003 (0.002, 0.005)
	Hepatitis B	0.268 (0.231, 0.314)	0.330 (0.285, 0.377)	0.309 (0.270, 0.347)	0.330 (0.285, 0.377)
	Hepatitis C	0.732 (0.686, 0.769)	0.669 (0.622, 0.714)	0.539 (0.476, 0.601)	0.667 (0.620, 0.711)
	Hepatitis E	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)
Asia, Central	Hepatitis A	0.006 (0.002, 0.011)	0.014 (0.004, 0.026)	0.161 (0.128, 0.195)	0.017 (0.008, 0.029)
	Hepatitis B	0.613 (0.565, 0.650)	0.623 (0.570, 0.662)	0.577 (0.541, 0.610)	0.622 (0.570, 0.660)
	Hepatitis C	0.373 (0.337, 0.422)	0.348 (0.310, 0.401)	0.243 (0.208, 0.285)	0.346 (0.308, 0.399)
	Hepatitis E	0.008 (0.005, 0.012)	0.015 (0.010, 0.022)	0.019 (0.015, 0.023)	0.015 (0.010, 0.022)
Asia, East	Hepatitis A	0.003 (0.001, 0.006)	0.005 (0.001, 0.010)	0.146 (0.121, 0.173)	0.008 (0.004, 0.013)
	Hepatitis B	0.589 (0.548, 0.624)	0.603 (0.559, 0.643)	0.571 (0.553, 0.590)	0.602 (0.559, 0.642)
	Hepatitis C	0.394 (0.358, 0.435)	0.371 (0.330, 0.416)	0.213 (0.178, 0.252)	0.367 (0.327, 0.413)
	Hepatitis E	0.015 (0.009, 0.023)	0.022 (0.013, 0.032)	0.070 (0.058, 0.082)	0.023 (0.015, 0.033)
Asia, South	Hepatitis A	0.035 (0.012, 0.063)	0.071 (0.026, 0.125)	0.276 (0.229, 0.324)	0.075 (0.030, 0.128)
	Hepatitis B	0.513 (0.450, 0.575)	0.471 (0.402, 0.542)	0.381 (0.326, 0.437)	0.470 (0.401, 0.540)
	Hepatitis C	0.325 (0.276, 0.379)	0.267 (0.222, 0.318)	0.206 (0.159, 0.260)	0.266 (0.222, 0.316)
	Hepatitis E	0.127 (0.096, 0.164)	0.191 (0.147, 0.239)	0.137 (0.112, 0.165)	0.190 (0.147, 0.237)
Asia, Southeast	Hepatitis A	0.003 (0.001, 0.005)	0.006 (0.002, 0.010)	0.243 (0.199, 0.285)	0.010 (0.006, 0.015)
	Hepatitis B	0.533 (0.494, 0.575)	0.554 (0.511, 0.605)	0.486 (0.456, 0.514)	0.553 (0.510, 0.603)
	Hepatitis C	0.454 (0.410, 0.493)	0.424 (0.375, 0.466)	0.231 (0.188, 0.276)	0.420 (0.372, 0.463)
	Hepatitis E	0.010 (0.006, 0.015)	0.016 (0.011, 0.023)	0.039 (0.032, 0.048)	0.016 (0.011, 0.023)
Australasia	Hepatitis A	0.005 (0.001, 0.011)	0.008 (0.002, 0.018)	0.286 (0.233, 0.343)	0.018 (0.011, 0.028)
	Hepatitis B	0.343 (0.265, 0.438)	0.387 (0.309, 0.476)	0.381 (0.332, 0.426)	0.387 (0.311, 0.474)
	Hepatitis C	0.652 (0.556, 0.731)	0.604 (0.517, 0.682)	0.333 (0.263, 0.406)	0.595 (0.510, 0.672)
	Hepatitis E	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)
Caribbean	Hepatitis A	0.011 (0.005, 0.019)	0.027 (0.012, 0.041)	0.389 (0.333, 0.445)	0.036 (0.022, 0.050)
	Hepatitis B	0.265 (0.222, 0.306)	0.293 (0.244, 0.340)	0.298 (0.266, 0.325)	0.293 (0.245, 0.340)
	Hepatitis C	0.723 (0.684, 0.766)	0.680 (0.637, 0.727)	0.314 (0.251, 0.380)	0.670 (0.627, 0.717)
	Hepatitis E	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)
Europe, Central	Hepatitis A	0.001 (0.000, 0.002)	0.002 (0.001, 0.003)	0.186 (0.142, 0.237)	0.007 (0.005, 0.009)
	Hepatitis B	0.444 (0.397, 0.486)	0.467 (0.419, 0.515)	0.428 (0.381, 0.472)	0.466 (0.418, 0.514)
	Hepatitis C	0.555 (0.513, 0.602)	0.531 (0.483, 0.580)	0.385 (0.336, 0.441)	0.527 (0.479, 0.576)
	Hepatitis E	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)
Europe, Eastern	Hepatitis A	0.001 (0.001, 0.003)	0.003 (0.001, 0.005)	0.175 (0.132, 0.225)	0.006 (0.004, 0.009)
	Hepatitis B	0.308 (0.235, 0.377)	0.322 (0.243, 0.395)	0.334 (0.269, 0.398)	0.322 (0.244, 0.395)
	Hepatitis C	0.690 (0.622, 0.763)	0.675 (0.603, 0.754)	0.491 (0.418, 0.575)	0.672 (0.599, 0.750)
	Hepatitis E	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)
Europe, Western	Hepatitis A	0.003 (0.001, 0.006)	0.004 (0.002, 0.008)	0.218 (0.169, 0.276)	0.010 (0.007, 0.014)
	Hepatitis B	0.221 (0.194, 0.245)	0.233 (0.204, 0.261)	0.205 (0.185, 0.226)	0.232 (0.203, 0.260)
	Hepatitis C	0.776 (0.752, 0.803)	0.763 (0.734, 0.791)	0.577 (0.518, 0.632)	0.758 (0.729, 0.787)
	Hepatitis E	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)
Latin America, Andean	Hepatitis A	0.006 (0.003, 0.009)	0.014 (0.007, 0.022)	0.438 (0.372, 0.509)	0.023 (0.015, 0.031)
	Hepatitis B	0.406 (0.336, 0.477)	0.421 (0.350, 0.486)	0.299 (0.258, 0.339)	0.419 (0.348, 0.483)
	Hepatitis C	0.588 (0.518, 0.657)	0.565 (0.499, 0.636)	0.263 (0.207, 0.325)	0.559 (0.494, 0.630)
	Hepatitis E	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)

Table S10 (continued): The proportion of viral hepatitis deaths, YLLs, YLDs and DALYs attributable to each virus, by region, 2013 with 95% uncertainty intervals

Region	Etiology	Deaths	YLLs	YLDs	DALYs
Latin America, Central	Hepatitis A	0.006 (0.002, 0.009)	0.012 (0.006, 0.017)	0.365 (0.312, 0.418)	0.020 (0.013, 0.026)
	Hepatitis B	0.165 (0.153, 0.176)	0.172 (0.160, 0.185)	0.267 (0.246, 0.287)	0.174 (0.162, 0.187)
	Hepatitis C	0.830 (0.819, 0.841)	0.816 (0.804, 0.828)	0.368 (0.303, 0.437)	0.806 (0.793, 0.818)
	Hepatitis E	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)
Latin America, Southern	Hepatitis A	0.008 (0.004, 0.013)	0.014 (0.008, 0.020)	0.367 (0.288, 0.450)	0.022 (0.015, 0.029)
	Hepatitis B	0.215 (0.140, 0.275)	0.213 (0.139, 0.272)	0.148 (0.102, 0.190)	0.211 (0.139, 0.270)
	Hepatitis C	0.777 (0.718, 0.851)	0.773 (0.714, 0.845)	0.485 (0.408, 0.571)	0.767 (0.708, 0.839)
	Hepatitis E	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)
Latin America, Tropical	Hepatitis A	0.009 (0.003, 0.016)	0.015 (0.006, 0.025)	0.412 (0.339, 0.484)	0.023 (0.014, 0.035)
	Hepatitis B	0.223 (0.164, 0.296)	0.235 (0.171, 0.321)	0.221 (0.182, 0.267)	0.234 (0.172, 0.320)
	Hepatitis C	0.768 (0.695, 0.827)	0.751 (0.665, 0.814)	0.367 (0.286, 0.457)	0.742 (0.657, 0.805)
	Hepatitis E	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)
North Africa and Middle East	Hepatitis A	0.004 (0.001, 0.007)	0.008 (0.003, 0.015)	0.261 (0.220, 0.302)	0.014 (0.008, 0.021)
	Hepatitis B	0.402 (0.324, 0.478)	0.402 (0.329, 0.478)	0.394 (0.365, 0.419)	0.401 (0.330, 0.478)
	Hepatitis C	0.584 (0.509, 0.662)	0.576 (0.498, 0.650)	0.281 (0.234, 0.330)	0.570 (0.493, 0.642)
	Hepatitis E	0.010 (0.006, 0.015)	0.014 (0.009, 0.021)	0.064 (0.054, 0.075)	0.015 (0.010, 0.022)
North America, High Income	Hepatitis A	0.007 (0.003, 0.013)	0.010 (0.004, 0.016)	0.274 (0.204, 0.348)	0.016 (0.009, 0.022)
	Hepatitis B	0.159 (0.118, 0.217)	0.164 (0.123, 0.222)	0.148 (0.114, 0.192)	0.163 (0.122, 0.221)
	Hepatitis C	0.834 (0.776, 0.874)	0.826 (0.766, 0.868)	0.579 (0.491, 0.659)	0.821 (0.761, 0.863)
	Hepatitis E	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)
Oceania	Hepatitis A	0.013 (0.004, 0.028)	0.024 (0.006, 0.052)	0.235 (0.192, 0.276)	0.027 (0.009, 0.055)
	Hepatitis B	0.697 (0.630, 0.758)	0.697 (0.628, 0.761)	0.534 (0.489, 0.580)	0.695 (0.626, 0.759)
	Hepatitis C	0.228 (0.172, 0.288)	0.204 (0.148, 0.264)	0.149 (0.111, 0.195)	0.203 (0.147, 0.263)
	Hepatitis E	0.062 (0.036, 0.098)	0.075 (0.046, 0.115)	0.082 (0.067, 0.098)	0.075 (0.046, 0.115)
Sub-Saharan Africa, Central	Hepatitis A	0.016 (0.005, 0.035)	0.038 (0.011, 0.078)	0.278 (0.238, 0.319)	0.045 (0.019, 0.084)
	Hepatitis B	0.443 (0.361, 0.534)	0.447 (0.373, 0.532)	0.397 (0.345, 0.442)	0.446 (0.373, 0.529)
	Hepatitis C	0.513 (0.370, 0.603)	0.470 (0.315, 0.555)	0.247 (0.193, 0.307)	0.464 (0.312, 0.544)
	Hepatitis E	0.028 (0.015, 0.077)	0.044 (0.025, 0.109)	0.078 (0.066, 0.091)	0.045 (0.026, 0.108)
Sub-Saharan Africa, East	Hepatitis A	0.013 (0.004, 0.024)	0.030 (0.010, 0.054)	0.304 (0.267, 0.341)	0.040 (0.021, 0.063)
	Hepatitis B	0.491 (0.440, 0.547)	0.506 (0.455, 0.558)	0.478 (0.449, 0.501)	0.505 (0.456, 0.556)
	Hepatitis C	0.467 (0.411, 0.514)	0.418 (0.367, 0.460)	0.164 (0.128, 0.205)	0.409 (0.359, 0.450)
	Hepatitis E	0.029 (0.019, 0.041)	0.046 (0.032, 0.065)	0.054 (0.046, 0.062)	0.046 (0.033, 0.065)
Sub-Saharan Africa, Southern	Hepatitis A	0.026 (0.008, 0.050)	0.053 (0.017, 0.098)	0.324 (0.280, 0.368)	0.065 (0.031, 0.108)
	Hepatitis B	0.514 (0.434, 0.590)	0.525 (0.438, 0.606)	0.462 (0.410, 0.504)	0.522 (0.438, 0.599)
	Hepatitis C	0.391 (0.314, 0.472)	0.304 (0.236, 0.388)	0.168 (0.120, 0.220)	0.298 (0.233, 0.381)
	Hepatitis E	0.069 (0.038, 0.102)	0.118 (0.066, 0.168)	0.046 (0.038, 0.055)	0.115 (0.065, 0.164)
Sub-Saharan Africa, West	Hepatitis A	0.010 (0.002, 0.021)	0.022 (0.006, 0.047)	0.231 (0.201, 0.262)	0.028 (0.012, 0.051)
	Hepatitis B	0.585 (0.539, 0.633)	0.606 (0.561, 0.656)	0.514 (0.482, 0.550)	0.604 (0.560, 0.653)
	Hepatitis C	0.375 (0.324, 0.431)	0.329 (0.276, 0.386)	0.188 (0.152, 0.224)	0.326 (0.274, 0.381)
	Hepatitis E	0.030 (0.014, 0.047)	0.042 (0.021, 0.065)	0.066 (0.054, 0.077)	0.043 (0.023, 0.065)

Table S11: The proportion of viral hepatitis deaths, YLLs, YLDs and DALYs attributable to each cause, by region, 2013 with 95% uncertainty intervals

Region	Cause	Deaths	YLLs	YLDs	DALYs
Asia Pacific, High Income	Acute hepatitis A	0.000 (0.000, 0.001)	0.001 (0.000, 0.001)	0.152 (0.110, 0.199)	0.003 (0.002, 0.005)
	Acute hepatitis B	0.004 (0.003, 0.005)	0.004 (0.003, 0.005)	0.092 (0.065, 0.124)	0.006 (0.004, 0.007)
	Acute hepatitis C	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.016 (0.011, 0.023)	0.000 (0.000, 0.001)
	Acute hepatitis E	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)
	Cirrhosis hepatitis B	0.123 (0.094, 0.153)	0.143 (0.106, 0.176)	0.104 (0.080, 0.133)	0.143 (0.105, 0.175)
	Cirrhosis hepatitis C	0.190 (0.122, 0.247)	0.179 (0.118, 0.236)	0.154 (0.107, 0.205)	0.179 (0.118, 0.235)
	Liver cancer hepatitis B	0.141 (0.110, 0.177)	0.183 (0.143, 0.228)	0.112 (0.084, 0.147)	0.181 (0.142, 0.227)
	Liver cancer hepatitis C	0.542 (0.486, 0.607)	0.489 (0.428, 0.566)	0.369 (0.294, 0.451)	0.487 (0.426, 0.563)
Asia, Central	Acute hepatitis A	0.006 (0.002, 0.011)	0.014 (0.004, 0.026)	0.161 (0.128, 0.195)	0.017 (0.008, 0.029)
	Acute hepatitis B	0.022 (0.016, 0.028)	0.041 (0.029, 0.056)	0.206 (0.162, 0.249)	0.045 (0.032, 0.059)
	Acute hepatitis C	0.002 (0.000, 0.004)	0.003 (0.001, 0.007)	0.032 (0.026, 0.039)	0.004 (0.001, 0.008)
	Acute hepatitis E	0.008 (0.005, 0.012)	0.015 (0.010, 0.022)	0.019 (0.015, 0.023)	0.015 (0.010, 0.022)
	Cirrhosis hepatitis B	0.489 (0.444, 0.527)	0.493 (0.443, 0.533)	0.343 (0.283, 0.402)	0.490 (0.441, 0.530)
	Cirrhosis hepatitis C	0.275 (0.239, 0.325)	0.270 (0.232, 0.325)	0.183 (0.148, 0.227)	0.268 (0.231, 0.323)
	Liver cancer hepatitis B	0.102 (0.092, 0.112)	0.088 (0.079, 0.098)	0.029 (0.023, 0.036)	0.087 (0.078, 0.097)
	Liver cancer hepatitis C	0.096 (0.086, 0.105)	0.075 (0.067, 0.083)	0.027 (0.021, 0.033)	0.074 (0.066, 0.082)
Asia, East	Acute hepatitis A	0.003 (0.001, 0.006)	0.005 (0.001, 0.010)	0.146 (0.121, 0.173)	0.008 (0.004, 0.013)
	Acute hepatitis B	0.052 (0.042, 0.063)	0.051 (0.039, 0.065)	0.267 (0.223, 0.313)	0.055 (0.043, 0.069)
	Acute hepatitis C	0.002 (0.000, 0.004)	0.002 (0.000, 0.004)	0.014 (0.012, 0.016)	0.002 (0.001, 0.004)
	Acute hepatitis E	0.015 (0.009, 0.023)	0.022 (0.013, 0.032)	0.070 (0.058, 0.082)	0.023 (0.015, 0.033)
	Cirrhosis hepatitis B	0.165 (0.154, 0.175)	0.163 (0.152, 0.175)	0.151 (0.123, 0.180)	0.163 (0.152, 0.175)
	Cirrhosis hepatitis C	0.083 (0.077, 0.089)	0.083 (0.077, 0.089)	0.076 (0.061, 0.092)	0.083 (0.077, 0.088)
	Liver cancer hepatitis B	0.372 (0.336, 0.403)	0.389 (0.350, 0.420)	0.153 (0.120, 0.190)	0.384 (0.345, 0.416)
	Liver cancer hepatitis C	0.309 (0.273, 0.352)	0.286 (0.247, 0.332)	0.123 (0.094, 0.157)	0.283 (0.244, 0.328)
Asia, South	Acute hepatitis A	0.035 (0.012, 0.063)	0.071 (0.026, 0.125)	0.276 (0.229, 0.324)	0.075 (0.030, 0.128)
	Acute hepatitis B	0.090 (0.060, 0.123)	0.104 (0.063, 0.157)	0.117 (0.094, 0.143)	0.104 (0.064, 0.157)
	Acute hepatitis C	0.005 (0.001, 0.012)	0.006 (0.001, 0.014)	0.017 (0.014, 0.021)	0.006 (0.001, 0.014)
	Acute hepatitis E	0.127 (0.096, 0.164)	0.191 (0.147, 0.239)	0.137 (0.112, 0.165)	0.190 (0.147, 0.237)
	Cirrhosis hepatitis B	0.298 (0.247, 0.344)	0.264 (0.213, 0.313)	0.222 (0.165, 0.286)	0.264 (0.212, 0.312)
	Cirrhosis hepatitis C	0.210 (0.163, 0.261)	0.182 (0.138, 0.230)	0.152 (0.108, 0.203)	0.181 (0.138, 0.229)
	Liver cancer hepatitis B	0.125 (0.100, 0.154)	0.103 (0.078, 0.128)	0.043 (0.030, 0.058)	0.102 (0.077, 0.127)
	Liver cancer hepatitis C	0.110 (0.089, 0.132)	0.080 (0.064, 0.096)	0.037 (0.027, 0.050)	0.079 (0.063, 0.095)
Asia, Southeast	Acute hepatitis A	0.003 (0.001, 0.005)	0.006 (0.002, 0.010)	0.243 (0.199, 0.285)	0.010 (0.006, 0.015)
	Acute hepatitis B	0.020 (0.016, 0.026)	0.023 (0.017, 0.031)	0.223 (0.185, 0.266)	0.027 (0.020, 0.035)
	Acute hepatitis C	0.001 (0.000, 0.001)	0.001 (0.000, 0.002)	0.016 (0.013, 0.018)	0.001 (0.000, 0.002)
	Acute hepatitis E	0.010 (0.006, 0.015)	0.016 (0.011, 0.023)	0.039 (0.032, 0.048)	0.016 (0.011, 0.023)
	Cirrhosis hepatitis B	0.280 (0.241, 0.323)	0.303 (0.257, 0.355)	0.172 (0.137, 0.215)	0.301 (0.255, 0.351)
	Cirrhosis hepatitis C	0.214 (0.173, 0.259)	0.221 (0.177, 0.271)	0.127 (0.096, 0.165)	0.219 (0.176, 0.269)
	Liver cancer hepatitis B	0.232 (0.191, 0.273)	0.228 (0.184, 0.269)	0.090 (0.067, 0.115)	0.225 (0.182, 0.266)
	Liver cancer hepatitis C	0.240 (0.194, 0.288)	0.202 (0.160, 0.248)	0.088 (0.065, 0.115)	0.200 (0.158, 0.245)
Australasia	Acute hepatitis A	0.005 (0.001, 0.011)	0.008 (0.002, 0.018)	0.286 (0.233, 0.343)	0.018 (0.011, 0.028)
	Acute hepatitis B	0.054 (0.042, 0.070)	0.075 (0.058, 0.096)	0.236 (0.190, 0.282)	0.081 (0.063, 0.102)
	Acute hepatitis C	0.004 (0.001, 0.009)	0.005 (0.001, 0.013)	0.033 (0.024, 0.043)	0.006 (0.002, 0.013)
	Acute hepatitis E	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)
	Cirrhosis hepatitis B	0.167 (0.109, 0.249)	0.179 (0.120, 0.252)	0.100 (0.062, 0.146)	0.176 (0.119, 0.247)
	Cirrhosis hepatitis C	0.318 (0.236, 0.405)	0.339 (0.256, 0.421)	0.190 (0.136, 0.251)	0.334 (0.253, 0.415)
	Liver cancer hepatitis B	0.123 (0.085, 0.171)	0.133 (0.092, 0.186)	0.045 (0.027, 0.068)	0.130 (0.090, 0.182)
	Liver cancer hepatitis C	0.330 (0.246, 0.409)	0.261 (0.191, 0.334)	0.110 (0.070, 0.154)	0.255 (0.187, 0.328)

Table S11 (continued): The proportion of viral hepatitis deaths, YLLs, YLDs and DALYs attributable to each cause, by region, 2013 with 95% uncertainty intervals

Region	Cause	Deaths	YLLs	YLDs	DALYs
Caribbean	Acute hepatitis A	0.011 (0.005, 0.019)	0.027 (0.012, 0.041)	0.389 (0.333, 0.445)	0.036 (0.022, 0.050)
	Acute hepatitis B	0.035 (0.027, 0.044)	0.045 (0.032, 0.060)	0.203 (0.171, 0.235)	0.049 (0.036, 0.064)
	Acute hepatitis C	0.004 (0.001, 0.009)	0.006 (0.001, 0.014)	0.024 (0.020, 0.028)	0.006 (0.002, 0.014)
	Acute hepatitis E	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)
	Cirrhosis hepatitis B	0.114 (0.079, 0.150)	0.121 (0.084, 0.162)	0.056 (0.037, 0.082)	0.120 (0.082, 0.159)
	Cirrhosis hepatitis C	0.467 (0.412, 0.515)	0.462 (0.406, 0.511)	0.209 (0.160, 0.265)	0.456 (0.399, 0.504)
	Liver cancer hepatitis B	0.115 (0.093, 0.136)	0.127 (0.101, 0.149)	0.039 (0.027, 0.052)	0.124 (0.100, 0.146)
	Liver cancer hepatitis C	0.253 (0.220, 0.286)	0.212 (0.181, 0.242)	0.080 (0.058, 0.105)	0.209 (0.179, 0.238)
Europe, Central	Acute hepatitis A	0.001 (0.000, 0.002)	0.002 (0.001, 0.003)	0.186 (0.142, 0.237)	0.007 (0.005, 0.009)
	Acute hepatitis B	0.004 (0.003, 0.005)	0.004 (0.003, 0.005)	0.070 (0.053, 0.090)	0.006 (0.004, 0.007)
	Acute hepatitis C	0.000 (0.000, 0.001)	0.000 (0.000, 0.001)	0.014 (0.011, 0.018)	0.001 (0.000, 0.001)
	Acute hepatitis E	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)
	Cirrhosis hepatitis B	0.347 (0.295, 0.389)	0.376 (0.327, 0.423)	0.330 (0.279, 0.382)	0.375 (0.326, 0.421)
	Cirrhosis hepatitis C	0.349 (0.307, 0.391)	0.369 (0.323, 0.417)	0.313 (0.264, 0.365)	0.368 (0.322, 0.415)
	Liver cancer hepatitis B	0.093 (0.073, 0.114)	0.087 (0.067, 0.105)	0.028 (0.020, 0.036)	0.085 (0.066, 0.103)
	Liver cancer hepatitis C	0.206 (0.175, 0.236)	0.162 (0.134, 0.187)	0.059 (0.045, 0.073)	0.159 (0.131, 0.183)
Europe, Eastern	Acute hepatitis A	0.001 (0.001, 0.003)	0.003 (0.001, 0.005)	0.175 (0.132, 0.225)	0.006 (0.004, 0.009)
	Acute hepatitis B	0.006 (0.004, 0.007)	0.007 (0.005, 0.009)	0.105 (0.077, 0.137)	0.009 (0.007, 0.012)
	Acute hepatitis C	0.000 (0.000, 0.001)	0.000 (0.000, 0.001)	0.018 (0.013, 0.025)	0.001 (0.000, 0.001)
	Acute hepatitis E	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)
	Cirrhosis hepatitis B	0.257 (0.181, 0.324)	0.277 (0.199, 0.350)	0.215 (0.152, 0.282)	0.276 (0.198, 0.348)
	Cirrhosis hepatitis C	0.550 (0.477, 0.623)	0.576 (0.499, 0.656)	0.432 (0.359, 0.515)	0.573 (0.497, 0.653)
	Liver cancer hepatitis B	0.046 (0.033, 0.063)	0.038 (0.027, 0.052)	0.014 (0.009, 0.020)	0.037 (0.027, 0.051)
	Liver cancer hepatitis C	0.140 (0.112, 0.180)	0.099 (0.078, 0.131)	0.041 (0.030, 0.055)	0.098 (0.077, 0.129)
Europe, Western	Acute hepatitis A	0.003 (0.001, 0.006)	0.004 (0.002, 0.008)	0.218 (0.169, 0.276)	0.010 (0.007, 0.014)
	Acute hepatitis B	0.011 (0.008, 0.014)	0.011 (0.007, 0.014)	0.058 (0.043, 0.074)	0.012 (0.009, 0.015)
	Acute hepatitis C	0.001 (0.000, 0.003)	0.001 (0.000, 0.003)	0.015 (0.012, 0.019)	0.002 (0.001, 0.003)
	Acute hepatitis E	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)
	Cirrhosis hepatitis B	0.110 (0.093, 0.129)	0.117 (0.099, 0.137)	0.098 (0.079, 0.119)	0.116 (0.098, 0.136)
	Cirrhosis hepatitis C	0.456 (0.411, 0.499)	0.499 (0.449, 0.546)	0.415 (0.357, 0.467)	0.496 (0.448, 0.543)
	Liver cancer hepatitis B	0.100 (0.081, 0.119)	0.105 (0.084, 0.127)	0.049 (0.038, 0.062)	0.104 (0.083, 0.125)
	Liver cancer hepatitis C	0.318 (0.287, 0.362)	0.263 (0.235, 0.307)	0.146 (0.118, 0.181)	0.260 (0.232, 0.304)
Latin America, Andean	Acute hepatitis A	0.006 (0.003, 0.009)	0.014 (0.007, 0.022)	0.438 (0.372, 0.509)	0.023 (0.015, 0.031)
	Acute hepatitis B	0.013 (0.010, 0.017)	0.017 (0.011, 0.024)	0.126 (0.105, 0.148)	0.019 (0.013, 0.026)
	Acute hepatitis C	0.001 (0.000, 0.003)	0.002 (0.000, 0.005)	0.021 (0.018, 0.025)	0.003 (0.001, 0.005)
	Acute hepatitis E	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)
	Cirrhosis hepatitis B	0.232 (0.170, 0.297)	0.237 (0.172, 0.297)	0.102 (0.068, 0.141)	0.234 (0.170, 0.293)
	Cirrhosis hepatitis C	0.523 (0.458, 0.590)	0.516 (0.454, 0.587)	0.214 (0.161, 0.274)	0.511 (0.449, 0.582)
	Liver cancer hepatitis B	0.161 (0.137, 0.191)	0.167 (0.142, 0.201)	0.071 (0.052, 0.094)	0.165 (0.141, 0.198)
	Liver cancer hepatitis C	0.063 (0.047, 0.083)	0.046 (0.034, 0.058)	0.028 (0.019, 0.039)	0.046 (0.034, 0.058)
Latin America, Central	Acute hepatitis A	0.006 (0.002, 0.009)	0.012 (0.006, 0.017)	0.365 (0.312, 0.418)	0.020 (0.013, 0.026)
	Acute hepatitis B	0.013 (0.009, 0.016)	0.014 (0.010, 0.020)	0.203 (0.171, 0.234)	0.019 (0.013, 0.024)
	Acute hepatitis C	0.003 (0.001, 0.006)	0.004 (0.001, 0.008)	0.030 (0.026, 0.034)	0.004 (0.002, 0.008)
	Acute hepatitis E	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)
	Cirrhosis hepatitis B	0.059 (0.054, 0.066)	0.067 (0.061, 0.074)	0.028 (0.022, 0.036)	0.066 (0.060, 0.074)
	Cirrhosis hepatitis C	0.655 (0.638, 0.670)	0.675 (0.658, 0.690)	0.276 (0.221, 0.335)	0.666 (0.649, 0.682)
	Liver cancer hepatitis B	0.092 (0.082, 0.103)	0.091 (0.081, 0.100)	0.035 (0.026, 0.045)	0.090 (0.080, 0.099)
	Liver cancer hepatitis C	0.172 (0.161, 0.186)	0.138 (0.128, 0.150)	0.062 (0.047, 0.080)	0.136 (0.126, 0.148)

Table S11 (continued): The proportion of viral hepatitis deaths, YLLs, YLDs and DALYs attributable to each cause, by region, 2013 with 95% uncertainty intervals

Region	Cause	Deaths	YLLs	YLDs	DALYs
Latin America, Southern	Acute hepatitis A	0.008 (0.004, 0.013)	0.014 (0.008, 0.020)	0.367 (0.288, 0.450)	0.022 (0.015, 0.029)
	Acute hepatitis B	0.010 (0.006, 0.015)	0.011 (0.006, 0.017)	0.029 (0.021, 0.037)	0.011 (0.006, 0.017)
	Acute hepatitis C	0.001 (0.000, 0.002)	0.001 (0.000, 0.002)	0.010 (0.007, 0.012)	0.001 (0.000, 0.002)
	Acute hepatitis E	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)
	Cirrhosis hepatitis B	0.164 (0.096, 0.220)	0.161 (0.095, 0.218)	0.101 (0.058, 0.144)	0.160 (0.094, 0.216)
	Cirrhosis hepatitis C	0.568 (0.502, 0.645)	0.608 (0.541, 0.682)	0.389 (0.312, 0.469)	0.604 (0.537, 0.679)
	Liver cancer hepatitis B	0.040 (0.028, 0.054)	0.041 (0.029, 0.055)	0.018 (0.011, 0.025)	0.041 (0.029, 0.054)
	Liver cancer hepatitis C	0.208 (0.173, 0.246)	0.164 (0.134, 0.193)	0.087 (0.065, 0.110)	0.162 (0.133, 0.192)
Latin America, Tropical	Acute hepatitis A	0.009 (0.003, 0.016)	0.015 (0.006, 0.025)	0.412 (0.339, 0.484)	0.023 (0.014, 0.035)
	Acute hepatitis B	0.034 (0.024, 0.044)	0.034 (0.023, 0.047)	0.133 (0.103, 0.165)	0.037 (0.025, 0.050)
	Acute hepatitis C	0.004 (0.001, 0.009)	0.005 (0.001, 0.011)	0.020 (0.015, 0.025)	0.005 (0.001, 0.011)
	Acute hepatitis E	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)
	Cirrhosis hepatitis B	0.118 (0.067, 0.183)	0.127 (0.070, 0.209)	0.063 (0.033, 0.106)	0.126 (0.069, 0.207)
	Cirrhosis hepatitis C	0.539 (0.447, 0.616)	0.570 (0.476, 0.650)	0.275 (0.196, 0.366)	0.563 (0.471, 0.643)
	Liver cancer hepatitis B	0.072 (0.051, 0.094)	0.073 (0.052, 0.094)	0.025 (0.016, 0.034)	0.072 (0.051, 0.092)
	Liver cancer hepatitis C	0.226 (0.179, 0.282)	0.177 (0.140, 0.222)	0.073 (0.052, 0.100)	0.174 (0.138, 0.219)
North Africa / Middle East	Acute hepatitis A	0.004 (0.001, 0.007)	0.008 (0.003, 0.015)	0.261 (0.220, 0.302)	0.014 (0.008, 0.021)
	Acute hepatitis B	0.038 (0.030, 0.046)	0.039 (0.029, 0.049)	0.205 (0.174, 0.235)	0.043 (0.033, 0.053)
	Acute hepatitis C	0.005 (0.001, 0.010)	0.005 (0.001, 0.010)	0.034 (0.029, 0.040)	0.005 (0.002, 0.011)
	Acute hepatitis E	0.010 (0.006, 0.015)	0.014 (0.009, 0.021)	0.064 (0.054, 0.075)	0.015 (0.010, 0.022)
	Cirrhosis hepatitis B	0.304 (0.228, 0.376)	0.297 (0.225, 0.372)	0.166 (0.131, 0.205)	0.294 (0.223, 0.368)
	Cirrhosis hepatitis C	0.453 (0.381, 0.528)	0.452 (0.377, 0.524)	0.204 (0.158, 0.248)	0.446 (0.373, 0.517)
	Liver cancer hepatitis B	0.060 (0.050, 0.069)	0.066 (0.055, 0.075)	0.023 (0.017, 0.029)	0.065 (0.054, 0.074)
	Liver cancer hepatitis C	0.127 (0.116, 0.140)	0.120 (0.108, 0.132)	0.044 (0.033, 0.055)	0.118 (0.107, 0.130)
North America, High Income	Acute hepatitis A	0.007 (0.003, 0.013)	0.010 (0.004, 0.016)	0.274 (0.204, 0.348)	0.016 (0.009, 0.022)
	Acute hepatitis B	0.010 (0.006, 0.016)	0.011 (0.006, 0.018)	0.044 (0.031, 0.059)	0.012 (0.007, 0.018)
	Acute hepatitis C	0.003 (0.001, 0.006)	0.003 (0.001, 0.007)	0.015 (0.010, 0.019)	0.003 (0.001, 0.008)
	Acute hepatitis E	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)
	Cirrhosis hepatitis B	0.098 (0.060, 0.150)	0.102 (0.064, 0.157)	0.073 (0.040, 0.114)	0.102 (0.064, 0.156)
	Cirrhosis hepatitis C	0.612 (0.527, 0.683)	0.643 (0.556, 0.710)	0.441 (0.349, 0.519)	0.638 (0.551, 0.706)
	Liver cancer hepatitis B	0.050 (0.036, 0.066)	0.050 (0.036, 0.068)	0.031 (0.020, 0.044)	0.050 (0.035, 0.067)
	Liver cancer hepatitis C	0.219 (0.165, 0.273)	0.181 (0.134, 0.231)	0.123 (0.085, 0.165)	0.179 (0.133, 0.230)
Oceania	Acute hepatitis A	0.013 (0.004, 0.028)	0.024 (0.006, 0.052)	0.235 (0.192, 0.276)	0.027 (0.009, 0.055)
	Acute hepatitis B	0.182 (0.138, 0.230)	0.185 (0.132, 0.240)	0.204 (0.164, 0.243)	0.185 (0.133, 0.240)
	Acute hepatitis C	0.005 (0.001, 0.012)	0.006 (0.001, 0.013)	0.025 (0.020, 0.032)	0.006 (0.001, 0.013)
	Acute hepatitis E	0.062 (0.036, 0.098)	0.075 (0.046, 0.115)	0.082 (0.067, 0.098)	0.075 (0.046, 0.115)
	Cirrhosis hepatitis B	0.340 (0.288, 0.391)	0.345 (0.293, 0.399)	0.252 (0.196, 0.313)	0.344 (0.292, 0.397)
	Cirrhosis hepatitis C	0.117 (0.084, 0.155)	0.110 (0.075, 0.153)	0.077 (0.052, 0.107)	0.109 (0.075, 0.152)
	Liver cancer hepatitis B	0.175 (0.119, 0.235)	0.167 (0.110, 0.232)	0.078 (0.042, 0.129)	0.166 (0.109, 0.230)
	Liver cancer hepatitis C	0.105 (0.060, 0.157)	0.089 (0.045, 0.137)	0.047 (0.022, 0.081)	0.088 (0.045, 0.137)
Sub-Saharan Africa, Central	Acute hepatitis A	0.016 (0.005, 0.035)	0.038 (0.011, 0.078)	0.278 (0.238, 0.319)	0.045 (0.019, 0.084)
	Acute hepatitis B	0.061 (0.034, 0.150)	0.101 (0.056, 0.201)	0.256 (0.208, 0.306)	0.105 (0.062, 0.205)
	Acute hepatitis C	0.003 (0.001, 0.012)	0.004 (0.001, 0.013)	0.029 (0.024, 0.035)	0.005 (0.002, 0.013)
	Acute hepatitis E	0.028 (0.015, 0.077)	0.044 (0.025, 0.109)	0.078 (0.066, 0.091)	0.045 (0.026, 0.108)
	Cirrhosis hepatitis B	0.272 (0.184, 0.337)	0.246 (0.171, 0.312)	0.119 (0.078, 0.167)	0.242 (0.168, 0.308)
	Cirrhosis hepatitis C	0.414 (0.288, 0.501)	0.395 (0.259, 0.476)	0.199 (0.141, 0.260)	0.389 (0.256, 0.468)
	Liver cancer hepatitis B	0.110 (0.080, 0.146)	0.101 (0.070, 0.141)	0.022 (0.014, 0.031)	0.098 (0.068, 0.137)
	Liver cancer hepatitis C	0.096 (0.063, 0.131)	0.071 (0.043, 0.101)	0.019 (0.011, 0.028)	0.069 (0.042, 0.098)

Table S11 (continued): The proportion of viral hepatitis deaths, YLLs, YLDs and DALYs attributable to each cause, by region, 2013 with 95% uncertainty intervals

Region	Cause	Deaths	YLLs	YLDs	DALYs
Sub-Saharan Africa, East	Acute hepatitis A	0.013 (0.004, 0.024)	0.030 (0.010, 0.054)	0.304 (0.267, 0.341)	0.040 (0.021, 0.063)
	Acute hepatitis B	0.066 (0.052, 0.082)	0.094 (0.069, 0.123)	0.307 (0.272, 0.344)	0.102 (0.077, 0.130)
	Acute hepatitis C	0.001 (0.000, 0.003)	0.002 (0.000, 0.005)	0.016 (0.014, 0.018)	0.002 (0.001, 0.005)
	Acute hepatitis E	0.029 (0.019, 0.041)	0.046 (0.032, 0.065)	0.054 (0.046, 0.062)	0.046 (0.033, 0.065)
	Cirrhosis hepatitis B	0.332 (0.284, 0.381)	0.310 (0.264, 0.358)	0.155 (0.118, 0.192)	0.304 (0.259, 0.350)
	Cirrhosis hepatitis C	0.270 (0.219, 0.323)	0.239 (0.194, 0.290)	0.116 (0.087, 0.153)	0.235 (0.191, 0.285)
	Liver cancer hepatitis B	0.093 (0.067, 0.116)	0.102 (0.072, 0.126)	0.016 (0.010, 0.022)	0.099 (0.070, 0.122)
	Liver cancer hepatitis C	0.196 (0.150, 0.234)	0.177 (0.136, 0.212)	0.032 (0.021, 0.045)	0.171 (0.131, 0.206)
Sub-Saharan Africa, Southern	Acute hepatitis A	0.026 (0.008, 0.050)	0.053 (0.017, 0.098)	0.324 (0.280, 0.368)	0.065 (0.031, 0.108)
	Acute hepatitis B	0.141 (0.105, 0.177)	0.169 (0.120, 0.223)	0.296 (0.254, 0.341)	0.175 (0.127, 0.226)
	Acute hepatitis C	0.006 (0.001, 0.014)	0.006 (0.001, 0.016)	0.022 (0.018, 0.026)	0.007 (0.002, 0.016)
	Acute hepatitis E	0.069 (0.038, 0.102)	0.118 (0.066, 0.168)	0.046 (0.038, 0.055)	0.115 (0.065, 0.164)
	Cirrhosis hepatitis B	0.198 (0.150, 0.248)	0.188 (0.144, 0.237)	0.139 (0.095, 0.187)	0.186 (0.143, 0.235)
	Cirrhosis hepatitis C	0.186 (0.147, 0.226)	0.156 (0.121, 0.190)	0.117 (0.077, 0.161)	0.154 (0.120, 0.188)
	Liver cancer hepatitis B	0.175 (0.128, 0.220)	0.168 (0.125, 0.209)	0.027 (0.018, 0.039)	0.162 (0.120, 0.200)
	Liver cancer hepatitis C	0.199 (0.147, 0.265)	0.142 (0.094, 0.207)	0.029 (0.016, 0.046)	0.137 (0.091, 0.200)
Sub-Saharan Africa, West	Acute hepatitis A	0.010 (0.002, 0.021)	0.022 (0.006, 0.047)	0.231 (0.201, 0.262)	0.028 (0.012, 0.051)
	Acute hepatitis B	0.083 (0.043, 0.116)	0.100 (0.047, 0.145)	0.325 (0.282, 0.365)	0.106 (0.054, 0.149)
	Acute hepatitis C	0.003 (0.001, 0.008)	0.003 (0.001, 0.008)	0.043 (0.038, 0.049)	0.004 (0.002, 0.009)
	Acute hepatitis E	0.030 (0.014, 0.047)	0.042 (0.021, 0.065)	0.066 (0.054, 0.077)	0.043 (0.023, 0.065)
	Cirrhosis hepatitis B	0.221 (0.186, 0.257)	0.208 (0.174, 0.244)	0.130 (0.093, 0.174)	0.206 (0.173, 0.242)
	Cirrhosis hepatitis C	0.179 (0.135, 0.216)	0.166 (0.123, 0.203)	0.106 (0.074, 0.135)	0.165 (0.122, 0.201)
	Liver cancer hepatitis B	0.280 (0.247, 0.322)	0.298 (0.261, 0.348)	0.059 (0.044, 0.077)	0.292 (0.256, 0.340)
	Liver cancer hepatitis C	0.193 (0.157, 0.237)	0.160 (0.129, 0.200)	0.040 (0.028, 0.053)	0.157 (0.126, 0.196)

Table S12: Age-standardized rates of deaths, YLLs, YLDs and DALYs (per 100,000 person-years) attributable to viral hepatitis, by year and income group with 95% uncertainty intervals

Year	Income	Deaths (per 100k)	YLLs (per 100k)	YLDs (per 100k)	DALYs (per 100k)
1990	Low income	32.6 (29.5, 36.0)	1,011.8 (916.4, 1,123.6)	17.6 (12.2, 24.2)	1,029.4 (930.9, 1,141.3)
	Lower middle income	25.2 (23.5, 27.0)	766.2 (716.8, 817.6)	13.8 (9.6, 18.9)	780.1 (729.5, 832.7)
	Upper middle income	28.8 (26.6, 30.8)	827.9 (759.9, 895.5)	16.5 (11.5, 22.3)	844.5 (777.0, 913.1)
	High income, nonOECD	8.4 (7.5, 9.3)	212.3 (189.7, 235.3)	8.8 (6.1, 12.2)	221.2 (198.4, 244.3)
	High income, OECD	12.3 (11.6, 13.1)	314.7 (295.9, 333.5)	7.5 (5.3, 10.1)	322.2 (302.7, 341.5)
1995	Low income	31.0 (28.4, 34.0)	916.1 (836.2, 1,007.7)	16.5 (11.5, 22.2)	932.6 (852.3, 1,023.3)
	Lower middle income	25.8 (24.3, 27.5)	785.7 (737.4, 836.8)	13.4 (9.4, 18.4)	799.2 (750.0, 850.4)
	Upper middle income	29.7 (28.1, 31.0)	826.6 (777.0, 870.3)	15.9 (11.1, 21.5)	842.5 (793.0, 887.6)
	High income, nonOECD	12.5 (11.4, 13.7)	339.9 (304.0, 374.3)	10.0 (6.9, 13.8)	349.8 (314.2, 384.8)
	High income, OECD	12.8 (11.7, 13.6)	317.2 (291.5, 337.7)	7.5 (5.3, 10.2)	324.7 (298.5, 346.0)
2000	Low income	29.9 (27.2, 32.9)	863.0 (777.2, 956.7)	16.5 (11.7, 22.3)	879.5 (795.0, 974.9)
	Lower middle income	26.8 (25.2, 28.6)	783.8 (731.5, 838.4)	13.8 (9.6, 19.0)	797.6 (743.7, 852.5)
	Upper middle income	28.9 (27.6, 30.2)	779.5 (743.5, 818.6)	15.0 (10.5, 20.4)	794.5 (757.6, 834.8)
	High income, nonOECD	13.5 (12.0, 15.1)	375.6 (331.3, 421.0)	10.7 (7.4, 14.6)	386.3 (341.1, 432.4)
	High income, OECD	13.3 (12.4, 14.1)	322.6 (304.9, 345.6)	7.5 (5.4, 10.1)	330.1 (311.9, 354.1)
2005	Low income	30.3 (27.9, 33.3)	851.6 (780.7, 941.5)	15.9 (11.1, 21.2)	867.5 (797.3, 960.2)
	Lower middle income	27.5 (25.8, 29.3)	782.4 (732.3, 838.8)	13.8 (9.6, 19.0)	796.2 (745.2, 852.6)
	Upper middle income	26.6 (25.4, 27.8)	690.9 (657.8, 725.1)	14.3 (10.0, 19.2)	705.2 (670.7, 739.1)
	High income, nonOECD	17.8 (16.1, 20.0)	526.2 (462.5, 603.6)	11.7 (8.2, 16.0)	537.9 (474.3, 616.5)
	High income, OECD	12.5 (11.7, 13.6)	303.8 (282.9, 330.5)	7.5 (5.3, 10.0)	311.3 (290.3, 338.0)
2010	Low income	29.8 (27.6, 32.4)	823.5 (756.6, 906.2)	15.1 (10.6, 20.3)	838.6 (770.5, 921.5)
	Lower middle income	27.6 (25.4, 30.5)	766.2 (694.6, 858.8)	13.2 (9.2, 18.1)	779.5 (708.5, 872.5)
	Upper middle income	24.9 (23.7, 26.3)	621.7 (587.4, 660.1)	14.2 (10.0, 19.0)	635.9 (600.5, 674.6)
	High income, nonOECD	16.3 (14.5, 18.5)	458.1 (401.0, 532.1)	11.2 (7.8, 15.4)	469.3 (411.3, 544.6)
	High income, OECD	12.6 (11.8, 14.0)	297.1 (276.0, 330.8)	7.5 (5.3, 10.0)	304.6 (283.0, 338.6)
2013	Low income	29.7 (27.5, 32.2)	813.1 (747.8, 893.3)	15.1 (10.6, 20.2)	828.2 (761.7, 908.7)
	Lower middle income	27.2 (25.2, 30.0)	746.9 (682.9, 842.6)	12.9 (9.1, 17.6)	759.8 (695.3, 855.7)
	Upper middle income	24.1 (22.1, 25.8)	591.9 (539.1, 645.4)	13.4 (9.4, 18.0)	605.3 (551.3, 658.9)
	High income, nonOECD	15.3 (13.6, 17.2)	415.2 (360.8, 476.7)	10.9 (7.6, 14.9)	426.1 (370.2, 488.5)
	High income, OECD	12.6 (11.6, 13.9)	293.8 (272.7, 325.4)	7.5 (5.3, 10.1)	301.3 (279.4, 332.6)

Table S13: Combined global viral hepatitis ranking in terms of deaths, YLLs, YLDs and DALYs, by income category and year with 95% uncertainty intervals

Year	Income	Deaths	YLLs	YLDs	DALYs
1990	Low income	18 (16, 20)	21 (20, 23)	69 (67, 73.5)	26 (23, 28.5)
	Lower middle income	13 (13, 16)	21 (18, 23)	76 (72, 77)	27 (22, 28)
	Upper middle income	7 (6, 8)	12 (10, 12)	67 (61, 68)	15 (12, 17)
	High income, nonOECD	21 (18, 25)	24 (22, 30)	70 (65, 72)	40 (36, 47)
	High income, OECD	13 (12.5, 14)	13 (12, 13)	72 (70, 76)	23 (21, 27)
1995	Low income	18 (16, 19)	21 (20, 23)	72 (68, 75)	27 (24, 29)
	Lower middle income	12 (12, 16)	19 (17, 21)	75 (73, 77)	23 (20, 27)
	Upper middle income	6 (5, 7)	9 (9, 11)	64 (60.5, 68)	10 (10, 15)
	High income, nonOECD	19 (16, 21)	20 (19, 24)	69 (65, 70)	32 (28, 38)
	High income, OECD	13 (11, 14)	10 (10, 12)	73 (69, 76)	22 (20, 26)
2000	Low income	17 (15, 19)	19 (19, 23)	72 (69, 74)	25 (23, 30)
	Lower middle income	13 (12, 15)	18 (16, 20)	74 (71, 76)	25 (20, 27)
	Upper middle income	7 (6, 7)	8 (8, 8)	64 (61, 67)	10 (9, 13)
	High income, nonOECD	17 (14, 19)	17 (16, 20)	69 (65, 70)	27 (23, 34)
	High income, OECD	10 (9, 12)	10 (9, 11)	69 (66, 74)	20 (17, 23)
2005	Low income	15 (12, 17)	19 (18, 21)	74 (70, 75)	24 (22, 27)
	Lower middle income	13 (12, 14)	16 (15, 18)	73 (71, 76)	21 (19, 25)
	Upper middle income	7 (5, 7)	7 (6, 9)	65 (61, 67)	13 (9, 14)
	High income, nonOECD	14 (12.5, 16)	13 (10, 15)	65 (63, 68)	20 (15, 24)
	High income, OECD	9 (9, 11)	10 (9, 10)	69 (67, 73)	20 (17, 23)
2010	Low income	14 (12, 16)	19 (18, 21)	73 (70, 75)	25 (22, 27)
	Lower middle income	13 (10, 13.5)	15 (14, 17)	72 (70, 74)	20 (17, 23.5)
	Upper middle income	5 (5, 6)	7 (5, 7)	64 (60, 66)	12 (8, 13)
	High income, nonOECD	12 (12, 16)	11 (9, 14)	67 (63, 68)	17 (14, 25)
	High income, OECD	9 (8, 11)	10 (7, 10)	70 (68, 74)	19 (17, 23)
2013	Low income	13 (11, 15)	17 (16, 19)	73 (70, 75.5)	23 (20, 25)
	Lower middle income	10 (9, 12)	14 (13, 17)	71 (70, 75)	19 (17, 23)
	Upper middle income	5 (5, 6)	6 (5, 8)	65 (61, 67)	10 (7, 13)
	High income, nonOECD	12 (10, 13)	9 (8, 13)	67 (62, 69)	19 (14, 24.5)
	High income, OECD	9 (8, 11)	8 (7, 10)	69 (67, 72)	19 (16, 21.5)

Table S14: The proportion of viral hepatitis deaths, YLLs, YLDs and DALYs attributable to each virus, by income category, 2013 with 95% uncertainty intervals

Income	Etiology	Deaths	YLLs	YLDs	DALYs
Low income	Hepatitis A	0.014 (0.005, 0.026)	0.028 (0.010, 0.050)	0.267 (0.229, 0.303)	0.033 (0.015, 0.055)
	Hepatitis B	0.500 (0.465, 0.538)	0.502 (0.462, 0.546)	0.464 (0.446, 0.482)	0.501 (0.462, 0.544)
	Hepatitis C	0.425 (0.394, 0.452)	0.379 (0.349, 0.407)	0.202 (0.168, 0.241)	0.375 (0.346, 0.403)
	Hepatitis E	0.062 (0.045, 0.082)	0.091 (0.069, 0.118)	0.067 (0.058, 0.076)	0.091 (0.069, 0.117)
Lower middle income	Hepatitis A	0.022 (0.007, 0.039)	0.049 (0.017, 0.086)	0.260 (0.219, 0.305)	0.053 (0.022, 0.091)
	Hepatitis B	0.496 (0.447, 0.534)	0.482 (0.431, 0.529)	0.415 (0.380, 0.450)	0.481 (0.431, 0.528)
	Hepatitis C	0.411 (0.377, 0.454)	0.351 (0.316, 0.393)	0.226 (0.188, 0.269)	0.349 (0.314, 0.390)
	Hepatitis E	0.071 (0.053, 0.094)	0.118 (0.090, 0.151)	0.099 (0.082, 0.117)	0.118 (0.090, 0.150)
Upper middle income	Hepatitis A	0.004 (0.001, 0.007)	0.007 (0.002, 0.013)	0.189 (0.156, 0.221)	0.011 (0.006, 0.016)
	Hepatitis B	0.542 (0.513, 0.568)	0.559 (0.526, 0.588)	0.517 (0.504, 0.531)	0.558 (0.526, 0.587)
	Hepatitis C	0.441 (0.416, 0.471)	0.416 (0.386, 0.449)	0.236 (0.200, 0.274)	0.412 (0.383, 0.444)
	Hepatitis E	0.013 (0.008, 0.020)	0.019 (0.012, 0.028)	0.058 (0.048, 0.067)	0.020 (0.013, 0.028)
High income, non-OECD	Hepatitis A	0.002 (0.001, 0.003)	0.003 (0.001, 0.005)	0.202 (0.155, 0.253)	0.008 (0.005, 0.011)
	Hepatitis B	0.318 (0.239, 0.398)	0.332 (0.244, 0.425)	0.346 (0.282, 0.416)	0.333 (0.245, 0.424)
	Hepatitis C	0.679 (0.599, 0.759)	0.663 (0.568, 0.752)	0.435 (0.350, 0.526)	0.657 (0.563, 0.746)
	Hepatitis E	0.002 (0.001, 0.002)	0.002 (0.001, 0.003)	0.017 (0.013, 0.021)	0.003 (0.002, 0.004)
High income, OECD	Hepatitis A	0.003 (0.001, 0.005)	0.005 (0.002, 0.008)	0.216 (0.167, 0.274)	0.009 (0.006, 0.013)
	Hepatitis B	0.234 (0.214, 0.257)	0.258 (0.235, 0.284)	0.233 (0.216, 0.252)	0.257 (0.234, 0.284)
	Hepatitis C	0.763 (0.740, 0.783)	0.738 (0.712, 0.761)	0.551 (0.494, 0.602)	0.734 (0.707, 0.757)
	Hepatitis E	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)	0.000 (0.000, 0.000)

Table S15: The absolute number global deaths, YLLs, YLDs and DALYs attributable to each virus, by year, with 95% uncertainty intervals

Year	Virus	Deaths (thousands)	YLLs (thousands)	YLDs (thousands)	DALYs (thousands)
1990	Hepatitis A	23 (8, 40)	1,779 (625, 3,129)	157 (101, 228)	1,936 (788, 3,290)
	Hepatitis B	517 (484, 552)	17,721 (16,292, 19,281)	327 (229, 444)	18,048 (16,608, 19,611)
	Hepatitis C	303 (287, 319)	8,488 (8,023, 8,972)	123 (87, 168)	8,611 (8,144, 9,096)
	Hepatitis E	52 (39, 67)	3,050 (2,306, 3,880)	46 (30, 66)	3,096 (2,357, 3,927)
1995	Hepatitis A	25 (10, 42)	1,917 (748, 3,275)	169 (110, 245)	2,086 (941, 3,447)
	Hepatitis B	574 (542, 607)	19,071 (17,700, 20,645)	337 (236, 457)	19,408 (18,018, 20,957)
	Hepatitis C	373 (355, 390)	10,180 (9,679, 10,650)	143 (101, 195)	10,324 (9,806, 10,812)
	Hepatitis E	56 (42, 73)	3,269 (2,480, 4,216)	48 (31, 70)	3,317 (2,526, 4,259)
2000	Hepatitis A	22 (8, 38)	1,610 (590, 2,732)	179 (116, 261)	1,789 (771, 2,933)
	Hepatitis B	622 (591, 655)	19,960 (18,669, 21,375)	357 (251, 481)	20,317 (19,007, 21,743)
	Hepatitis C	453 (434, 473)	12,136 (11,579, 12,726)	168 (119, 230)	12,305 (11,745, 12,897)
	Hepatitis E	52 (39, 69)	2,942 (2,225, 3,798)	51 (33, 73)	2,993 (2,279, 3,854)
2005	Hepatitis A	18 (6, 32)	1,270 (492, 2,296)	187 (121, 272)	1,457 (674, 2,475)
	Hepatitis B	644 (610, 682)	20,011 (18,712, 21,398)	370 (260, 500)	20,381 (19,059, 21,816)
	Hepatitis C	553 (527, 580)	14,768 (13,986, 15,552)	198 (142, 271)	14,967 (14,170, 15,761)
	Hepatitis E	48 (35, 64)	2,600 (1,941, 3,371)	51 (33, 74)	2,651 (1,992, 3,421)
2010	Hepatitis A	16 (5, 29)	1,100 (401, 2,014)	194 (126, 280)	1,294 (600, 2,229)
	Hepatitis B	660 (617, 707)	20,020 (18,522, 21,708)	388 (272, 522)	20,408 (18,848, 22,118)
	Hepatitis C	652 (618, 693)	16,545 (15,587, 17,685)	224 (159, 297)	16,770 (15,818, 17,883)
	Hepatitis E	50 (37, 65)	2,612 (1,961, 3,416)	53 (34, 78)	2,665 (2,013, 3,480)
2013	Hepatitis A	15 (5, 28)	1,017 (349, 1,890)	198 (128, 288)	1,215 (555, 2,108)
	Hepatitis B	686 (635, 740)	20,195 (18,481, 22,129)	383 (267, 512)	20,578 (18,857, 22,551)
	Hepatitis C	704 (665, 745)	17,809 (16,657, 19,000)	236 (168, 319)	18,045 (16,884, 19,246)
	Hepatitis E	50 (36, 67)	2,560 (1,914, 3,446)	57 (36, 82)	2,617 (1,962, 3,509)

Table S16: Absolute number of viral hepatitis deaths, YLLs, YLDs, and DALYs, by country, in 2013.

Country	Deaths	YLLs (thousands)	YLDs	DALYs (thousands)
Afghanistan	4,991 (3,561, 6,856)	173.1 (122.8, 241.0)	3,271 (2,213, 4,538)	176.4 (126.0, 244.6)
Albania	361 (259, 494)	8.0 (5.7, 11.0)	201 (137, 281)	8.2 (5.9, 11.3)
Algeria	1,987 (1,693, 2,301)	56.2 (48.0, 65.3)	4,098 (2,761, 5,797)	60.3 (52.1, 69.6)
Andorra	7 (5, 10)	0.1 (0.1, 0.2)	5 (3, 7)	0.1 (0.1, 0.2)
Angola	1,958 (1,397, 2,903)	68.5 (48.4, 97.7)	2,341 (1,554, 3,286)	70.8 (50.5, 100.2)
Antigua and Barbuda	7 (5, 9)	0.2 (0.1, 0.2)	6 (4, 8)	0.2 (0.1, 0.2)
Argentina	5,103 (4,250, 5,993)	117.5 (96.6, 139.1)	2,774 (1,893, 3,874)	120.3 (99.2, 142.0)
Armenia	961 (834, 1,107)	19.8 (16.8, 22.9)	523 (362, 717)	20.3 (17.3, 23.5)
Australia	2,386 (1,920, 2,805)	51.9 (43.0, 60.3)	1,740 (1,185, 2,427)	53.6 (44.5, 62.2)
Austria	1,711 (1,273, 2,084)	36.0 (25.7, 45.6)	1,247 (806, 1,817)	37.2 (26.8, 47.0)
Azerbaijan	2,201 (1,864, 2,635)	58.6 (49.1, 70.3)	1,654 (1,140, 2,279)	60.2 (50.8, 72.2)
Bahrain	60 (47, 76)	1.9 (1.4, 2.4)	139 (92, 198)	2.0 (1.6, 2.6)
Bangladesh	38,738 (30,711, 48,292)	1,441.5 (1,142.5, 1,796.1)	18,255 (12,647, 24,967)	1,459.8 (1,158.6, 1,814.9)
Barbados	28 (21, 35)	0.7 (0.5, 0.9)	20 (14, 28)	0.7 (0.5, 0.9)
Belarus	1,922 (1,600, 2,273)	58.5 (48.1, 69.1)	1,203 (838, 1,651)	59.7 (49.2, 70.4)
Belgium	1,604 (1,317, 1,966)	33.0 (26.3, 41.6)	861 (580, 1,221)	33.8 (27.1, 42.8)
Belize	24 (18, 32)	0.7 (0.5, 1.0)	22 (15, 31)	0.7 (0.6, 1.0)
Benin	1,936 (1,526, 2,382)	65.2 (49.8, 80.6)	1,546 (1,066, 2,191)	66.8 (51.2, 82.2)
Bhutan	118 (71, 191)	4.4 (2.5, 7.3)	76 (52, 106)	4.4 (2.6, 7.3)
Bolivia	1,868 (1,361, 2,450)	48.6 (34.0, 65.8)	710 (484, 980)	49.3 (34.6, 66.4)
Bosnia and Herzegovina	423 (247, 554)	9.7 (6.2, 12.6)	335 (228, 468)	10.1 (6.5, 13.0)
Botswana	67 (45, 99)	2.2 (1.5, 3.1)	209 (137, 303)	2.4 (1.7, 3.4)
Brazil	21,999 (18,077, 26,409)	594.8 (489.1, 721.5)	13,409 (9,093, 18,318)	608.3 (501.9, 732.1)
Brunei	29 (23, 37)	0.8 (0.6, 1.0)	30 (20, 41)	0.8 (0.6, 1.0)
Bulgaria	1,473 (1,252, 1,720)	36.1 (29.9, 42.6)	939 (655, 1,297)	37.0 (30.8, 43.5)
Burkina Faso	2,343 (1,911, 2,835)	84.9 (68.5, 103.4)	2,379 (1,601, 3,318)	87.3 (71.0, 105.9)
Burundi	846 (652, 1,094)	28.9 (22.0, 37.0)	1,163 (785, 1,637)	30.1 (23.1, 38.2)
Cambodia	2,069 (1,651, 2,507)	61.8 (47.3, 75.4)	1,576 (1,093, 2,178)	63.4 (48.7, 76.9)
Cameroon	5,386 (4,003, 7,234)	186.4 (137.0, 252.0)	3,041 (2,043, 4,259)	189.5 (139.9, 255.1)
Canada	3,642 (2,955, 4,278)	77.9 (64.1, 92.4)	1,853 (1,276, 2,557)	79.8 (65.6, 94.0)
Cape Verde	76 (52, 104)	2.3 (1.5, 3.3)	78 (53, 110)	2.4 (1.6, 3.3)
Central African Republic	489 (351, 643)	16.5 (11.9, 21.8)	578 (387, 807)	17.1 (12.4, 22.3)
Chad	1,603 (1,237, 2,111)	59.6 (44.9, 79.4)	1,781 (1,199, 2,507)	61.4 (46.5, 81.3)
Chile	3,281 (2,633, 3,896)	78.4 (59.3, 94.8)	1,377 (930, 1,879)	79.8 (60.8, 96.2)
China	435,814 (381,569, 483,164)	11,769.1 (10,252.4, 13,219.8)	244,778 (171,793, 328,397)	12,013.8 (10,498.6, 13,487.9)
Colombia	3,773 (3,153, 4,534)	84.5 (69.4, 101.9)	4,171 (2,798, 5,769)	88.7 (73.7, 106.4)
Comoros	68 (34, 105)	2.3 (1.1, 3.5)	89 (58, 125)	2.4 (1.2, 3.5)
Congo	566 (446, 709)	17.7 (13.9, 22.2)	530 (365, 735)	18.2 (14.4, 22.9)
Costa Rica	560 (485, 640)	12.8 (10.9, 14.8)	362 (243, 506)	13.2 (11.3, 15.1)
Cote d'Ivoire	3,394 (2,740, 4,244)	112.6 (89.9, 142.0)	3,028 (2,026, 4,300)	115.7 (92.6, 144.8)
Croatia	983 (806, 1,188)	22.3 (18.3, 27.1)	487 (327, 679)	22.7 (18.7, 27.7)
Cuba	1,094 (886, 1,302)	22.9 (18.1, 28.5)	842 (572, 1,173)	23.8 (19.0, 29.3)
Cyprus	74 (60, 89)	1.3 (1.0, 1.6)	49 (33, 68)	1.3 (1.1, 1.6)
Czech Republic	1,746 (1,512, 2,001)	42.0 (36.0, 48.3)	1,181 (816, 1,641)	43.1 (37.0, 49.7)
Democratic Republic of the Congo	7,530 (6,070, 9,204)	261.6 (207.9, 323.2)	7,923 (5,215, 10,942)	269.5 (215.5, 331.8)
Denmark	947 (803, 1,093)	22.1 (18.5, 26.1)	475 (328, 658)	22.6 (18.9, 26.4)
Djibouti	110 (73, 172)	3.4 (2.2, 5.3)	119 (80, 169)	3.5 (2.4, 5.5)
Dominica	6 (4, 8)	0.2 (0.1, 0.2)	5 (3, 7)	0.2 (0.1, 0.2)
Dominican Republic	1,441 (1,164, 1,835)	33.7 (26.5, 44.2)	764 (522, 1,055)	34.5 (27.2, 45.0)

Table S16 (continued): Absolute number of viral hepatitis deaths, YLLs, YLDs, and DALYs, by country, in 2013.

Country	Deaths	YLLs (thousands)	YLDs	DALYs (thousands)
Ecuador	2,168 (1,776, 2,640)	51.2 (40.7, 64.0)	1,073 (731, 1,495)	52.3 (41.7, 65.1)
Egypt	59,033 (52,218, 66,543)	1,493.9 (1,303.2, 1,711.2)	13,269 (9,233, 18,393)	1,507.1 (1,315.1, 1,724.8)
El Salvador	808 (662, 977)	19.6 (15.5, 24.2)	481 (328, 668)	20.1 (16.0, 24.7)
Equatorial Guinea	77 (43, 132)	2.7 (1.5, 4.5)	95 (65, 136)	2.8 (1.6, 4.6)
Eritrea	507 (338, 696)	17.6 (11.5, 24.0)	731 (489, 1,023)	18.3 (12.3, 24.6)
Estonia	197 (165, 226)	5.2 (4.4, 6.0)	150 (104, 209)	5.4 (4.5, 6.2)
Ethiopia	9,024 (7,390, 10,652)	281.0 (231.0, 328.2)	9,998 (6,715, 14,087)	291.0 (240.5, 338.5)
Federated States of Micronesia	14 (9, 22)	0.5 (0.3, 0.8)	13 (9, 18)	0.5 (0.3, 0.8)
Fiji	124 (102, 150)	4.3 (3.5, 5.3)	117 (81, 162)	4.4 (3.6, 5.4)
Finland	939 (751, 1,124)	22.8 (17.3, 27.9)	573 (393, 795)	23.3 (17.8, 28.5)
France	12,512 (9,594, 14,943)	252.8 (194.8, 305.9)	6,158 (4,143, 8,625)	258.9 (200.7, 312.6)
Gabon	305 (236, 384)	9.0 (7.1, 11.3)	213 (145, 293)	9.2 (7.3, 11.5)
Georgia	1,196 (1,003, 1,398)	29.5 (24.0, 35.2)	781 (535, 1,098)	30.3 (24.7, 36.2)
Germany	15,468 (12,027, 18,487)	324.3 (241.4, 389.2)	8,086 (5,390, 11,334)	332.3 (247.8, 398.5)
Ghana	4,271 (3,402, 5,321)	141.4 (112.7, 175.9)	4,042 (2,722, 5,684)	145.5 (116.6, 180.7)
Greece	1,407 (1,151, 1,806)	24.6 (19.8, 30.6)	799 (533, 1,103)	25.4 (20.5, 31.5)
Grenada	10 (8, 12)	0.3 (0.2, 0.3)	7 (5, 10)	0.3 (0.2, 0.3)
Guatemala	2,004 (1,670, 2,359)	57.3 (45.8, 69.2)	1,107 (761, 1,555)	58.4 (46.7, 70.4)
Guinea	2,889 (2,167, 3,720)	99.8 (73.9, 132.2)	1,967 (1,304, 2,753)	101.8 (75.9, 134.1)
Guinea-Bissau	375 (251, 572)	13.2 (9.0, 19.8)	266 (176, 372)	13.5 (9.2, 20.1)
Guyana	81 (57, 113)	2.8 (1.9, 4.0)	54 (36, 75)	2.8 (2.0, 4.0)
Haiti	1,017 (842, 1,218)	28.1 (22.9, 34.1)	716 (484, 992)	28.8 (23.5, 34.9)
Honduras	596 (417, 824)	14.3 (9.6, 20.5)	536 (367, 750)	14.8 (10.0, 21.1)
Hungary	2,757 (2,291, 3,262)	72.1 (59.0, 85.7)	1,530 (1,056, 2,114)	73.6 (60.3, 87.5)
Iceland	12 (9, 15)	0.2 (0.2, 0.3)	14 (9, 19)	0.2 (0.2, 0.3)
India	209,178 (175,545, 254,804)	7,588.8 (6,324.6, 9,659.8)	136,319 (93,225, 188,067)	7,725.1 (6,452.9, 9,797.5)
Indonesia	32,759 (26,113, 39,354)	1,020.6 (805.8, 1,250.3)	24,614 (16,813, 34,119)	1,045.2 (828.5, 1,275.6)
Iran	4,320 (3,634, 5,120)	118.4 (98.1, 141.4)	5,831 (4,040, 7,997)	124.2 (103.8, 147.5)
Iraq	1,934 (1,476, 2,426)	61.2 (47.2, 76.9)	3,309 (2,255, 4,563)	64.5 (50.3, 80.2)
Ireland	308 (252, 373)	7.1 (5.6, 8.8)	273 (186, 382)	7.4 (5.8, 9.1)
Israel	586 (494, 683)	10.8 (8.9, 12.6)	359 (246, 498)	11.1 (9.2, 12.9)
Italy	18,040 (15,137, 21,946)	304.2 (250.4, 370.7)	7,838 (5,521, 10,596)	312.1 (257.4, 379.8)
Jamaica	164 (131, 202)	3.9 (3.1, 5.0)	155 (105, 214)	4.1 (3.2, 5.1)
Japan	57,035 (47,812, 72,510)	913.4 (735.0, 1,213.5)	17,038 (11,936, 23,750)	930.4 (749.2, 1,233.3)
Jordan	292 (235, 356)	8.4 (6.6, 10.3)	620 (414, 872)	9.0 (7.2, 10.9)
Kazakhstan	5,215 (4,408, 6,207)	163.8 (137.4, 196.9)	3,135 (2,180, 4,296)	167.0 (140.5, 200.3)
Kenya	2,784 (2,138, 3,489)	91.9 (71.4, 116.8)	3,928 (2,637, 5,382)	95.9 (75.4, 120.8)
Kiribati	20 (14, 27)	0.8 (0.6, 1.1)	14 (9, 20)	0.8 (0.6, 1.1)
Kuwait	139 (119, 156)	4.0 (3.4, 4.5)	346 (231, 487)	4.3 (3.7, 4.9)
Kyrgyzstan	1,750 (1,484, 2,019)	58.9 (49.4, 68.7)	1,038 (720, 1,423)	60.0 (50.3, 69.7)
Laos	835 (517, 1,365)	27.3 (16.5, 45.9)	871 (583, 1,230)	28.2 (17.3, 46.6)
Latvia	268 (230, 305)	7.1 (6.1, 8.3)	202 (138, 282)	7.3 (6.3, 8.4)
Lebanon	426 (342, 541)	9.3 (7.2, 12.0)	554 (373, 765)	9.8 (7.7, 12.6)
Lesotho	121 (92, 153)	4.1 (3.2, 5.1)	226 (151, 318)	4.4 (3.5, 5.3)
Liberia	775 (621, 960)	25.4 (19.8, 32.3)	648 (440, 909)	26.1 (20.5, 32.9)
Libya	640 (481, 833)	16.6 (12.4, 21.6)	719 (481, 1,012)	17.3 (13.1, 22.4)

Table S16 (continued): Absolute number of viral hepatitis deaths, YLLs, YLDs, and DALYs, by country, in 2013.

Country	Deaths	YLLs (thousands)	YLDs	DALYs (thousands)
Lithuania	585 (488, 679)	17.0 (14.0, 20.1)	384 (262, 541)	17.4 (14.4, 20.6)
Luxembourg	86 (68, 103)	1.9 (1.5, 2.3)	61 (43, 86)	1.9 (1.5, 2.3)
Macedonia	182 (150, 216)	4.5 (3.7, 5.3)	166 (115, 229)	4.6 (3.8, 5.5)
Madagascar	2,196 (1,585, 2,872)	71.5 (50.9, 93.8)	3,276 (2,176, 4,645)	74.8 (53.9, 97.0)
Malawi	1,286 (1,010, 1,581)	45.8 (36.7, 55.6)	1,985 (1,339, 2,824)	47.7 (38.6, 58.1)
Malaysia	3,286 (2,890, 3,770)	88.0 (77.1, 101.0)	2,453 (1,713, 3,331)	90.5 (79.3, 103.7)
Maldives	15 (13, 19)	0.3 (0.3, 0.4)	34 (22, 48)	0.4 (0.3, 0.4)
Mali	3,451 (2,822, 4,225)	125.5 (103.1, 152.3)	2,424 (1,652, 3,322)	127.9 (105.0, 155.3)
Malta	34 (27, 41)	0.7 (0.6, 0.9)	23 (16, 32)	0.7 (0.6, 0.9)
Marshall Islands	11 (7, 15)	0.4 (0.3, 0.6)	9 (6, 13)	0.4 (0.3, 0.6)
Mauritania	756 (572, 946)	25.1 (18.4, 32.4)	609 (416, 851)	25.7 (19.0, 33.0)
Mauritius	236 (184, 286)	6.9 (5.3, 8.5)	168 (110, 231)	7.1 (5.4, 8.7)
Mexico	21,967 (20,969, 23,129)	557.5 (529.5, 589.3)	9,646 (6,776, 13,304)	567.2 (538.8, 599.6)
Moldova	1,899 (1,608, 2,172)	51.3 (43.4, 59.0)	582 (400, 805)	51.9 (44.0, 59.5)
Mongolia	2,324 (1,996, 2,697)	67.1 (56.5, 78.8)	735 (524, 989)	67.8 (57.3, 79.5)
Montenegro	60 (49, 75)	1.4 (1.1, 1.7)	47 (33, 65)	1.4 (1.2, 1.8)
Morocco	5,124 (4,223, 6,271)	108.6 (88.0, 134.0)	3,978 (2,719, 5,433)	112.6 (92.1, 137.7)
Mozambique	1,967 (1,615, 2,368)	68.4 (55.6, 82.7)	3,319 (2,194, 4,746)	71.7 (58.8, 86.1)
Myanmar	21,965 (13,122, 35,227)	699.8 (393.9, 1,152.2)	8,001 (5,359, 11,165)	707.8 (402.0, 1,161.0)
Namibia	85 (61, 109)	2.8 (2.0, 3.7)	214 (140, 303)	3.0 (2.3, 3.9)
Nepal	2,755 (2,138, 3,558)	97.2 (74.9, 136.8)	2,209 (1,510, 3,075)	99.5 (77.0, 139.2)
Netherlands	1,587 (1,234, 1,843)	30.6 (24.7, 35.9)	987 (698, 1,374)	31.6 (25.6, 37.0)
New Zealand	338 (284, 396)	6.9 (5.8, 8.0)	309 (212, 430)	7.2 (6.1, 8.3)
Nicaragua	666 (579, 758)	16.8 (14.0, 19.5)	402 (275, 557)	17.2 (14.4, 20.0)
Niger	2,722 (2,214, 3,242)	95.7 (77.2, 115.3)	2,586 (1,748, 3,657)	98.3 (79.5, 117.9)
Nigeria	19,998 (15,121, 25,805)	717.2 (543.7, 925.3)	22,370 (15,104, 31,315)	739.5 (564.0, 951.7)
North Korea	11,877 (9,411, 14,701)	344.8 (270.1, 435.2)	4,940 (3,449, 6,863)	349.7 (274.5, 440.7)
Norway	343 (278, 403)	6.8 (5.4, 8.1)	325 (223, 450)	7.1 (5.7, 8.4)
Oman	232 (177, 285)	6.6 (5.0, 8.5)	391 (260, 559)	7.0 (5.4, 8.9)
Pakistan	33,913 (26,453, 43,105)	1,265.3 (981.4, 1,592.1)	20,458 (14,126, 27,938)	1,285.7 (1,000.8, 1,616.8)
Palestine	280 (219, 358)	8.8 (6.8, 11.3)	440 (298, 625)	9.3 (7.3, 11.8)
Panama	293 (247, 343)	6.5 (5.3, 7.8)	268 (180, 369)	6.7 (5.6, 8.1)
Papua New Guinea	2,168 (1,326, 3,323)	86.2 (53.0, 133.1)	960 (657, 1,335)	87.2 (53.9, 134.2)
Paraguay	423 (335, 532)	10.9 (8.5, 13.9)	408 (275, 574)	11.3 (8.8, 14.3)
Peru	3,986 (3,183, 4,970)	95.1 (74.1, 120.8)	2,034 (1,393, 2,822)	97.1 (76.0, 122.9)
Philippines	11,569 (8,995, 14,743)	367.4 (279.3, 476.2)	11,221 (7,630, 15,751)	378.6 (290.1, 487.1)
Poland	5,990 (5,114, 6,980)	153.2 (125.4, 180.4)	4,836 (3,272, 6,767)	158.1 (129.4, 185.8)
Portugal	2,000 (1,554, 2,401)	45.9 (34.7, 55.5)	950 (643, 1,325)	46.8 (35.5, 56.6)
Qatar	63 (50, 77)	2.0 (1.6, 2.5)	241 (156, 345)	2.3 (1.8, 2.7)
Romania	6,456 (5,208, 7,549)	156.1 (128.1, 181.3)	3,510 (2,391, 4,797)	159.7 (131.2, 185.2)
Russia	28,402 (24,068, 33,398)	862.1 (724.6, 1,021.3)	18,570 (12,849, 25,677)	880.7 (740.7, 1,040.1)
Rwanda	839 (602, 1,110)	27.5 (19.3, 37.1)	1,334 (880, 1,857)	28.8 (20.5, 38.3)
Saint Lucia	15 (12, 19)	0.4 (0.3, 0.5)	13 (9, 18)	0.4 (0.3, 0.5)
Saint Vincent and the Grenadines	9 (7, 12)	0.3 (0.2, 0.3)	8 (5, 11)	0.3 (0.2, 0.3)
Samoa	24 (19, 31)	0.8 (0.6, 1.0)	25 (17, 35)	0.8 (0.6, 1.0)
Sao Tome and Principe	31 (19, 43)	1.0 (0.6, 1.4)	25 (16, 35)	1.0 (0.6, 1.5)

Table S16 (continued): Absolute number of viral hepatitis deaths, YLLs, YLDs, and DALYs, by country, in 2013.

Country	Deaths	YLLs (thousands)	YLDs	DALYs (thousands)
Saudi Arabia	2,208 (1,840, 2,704)	45.3 (36.7, 56.0)	2,600 (1,761, 3,592)	47.9 (39.0, 58.5)
Senegal	2,326 (1,842, 2,865)	77.7 (60.7, 97.3)	1,997 (1,351, 2,777)	79.7 (62.7, 99.3)
Serbia	994 (837, 1,181)	22.8 (19.4, 27.0)	802 (545, 1,105)	23.6 (20.1, 27.8)
Seychelles	14 (11, 18)	0.4 (0.3, 0.6)	12 (8, 17)	0.4 (0.3, 0.6)
Sierra Leone	1,272 (993, 1,613)	45.7 (35.5, 58.3)	942 (635, 1,326)	46.6 (36.4, 59.3)
Singapore	523 (410, 637)	10.5 (8.2, 13.1)	336 (232, 455)	10.8 (8.5, 13.5)
Slovakia	1,001 (778, 1,207)	26.9 (20.5, 33.0)	710 (479, 997)	27.7 (21.2, 33.7)
Slovenia	407 (332, 493)	9.5 (7.7, 11.6)	201 (138, 277)	9.7 (7.9, 11.8)
Solomon Islands	87 (54, 136)	3.4 (2.1, 5.4)	82 (55, 118)	3.5 (2.2, 5.5)
Somalia	854 (527, 1,321)	28.8 (18.1, 44.5)	1,085 (741, 1,515)	29.9 (19.4, 45.7)
South Africa	3,610 (3,037, 4,314)	109.1 (91.4, 131.6)	4,480 (2,990, 6,246)	113.6 (96.1, 136.1)
South Korea	19,613 (16,808, 23,826)	478.3 (405.5, 588.6)	7,605 (5,247, 10,520)	485.9 (412.4, 596.5)
South Sudan	1,171 (876, 1,513)	38.9 (28.6, 50.2)	1,404 (954, 1,985)	40.3 (30.0, 51.8)
Spain	9,755 (8,240, 11,892)	183.4 (152.7, 223.4)	4,326 (3,022, 6,081)	187.7 (156.1, 229.2)
Sri Lanka	2,720 (1,911, 3,382)	81.6 (54.2, 103.6)	1,938 (1,319, 2,694)	83.6 (56.1, 105.8)
Sudan	4,414 (2,835, 6,894)	133.7 (85.9, 209.8)	4,747 (3,186, 6,672)	138.4 (89.7, 214.3)
Suriname	50 (37, 65)	1.4 (1.0, 1.9)	38 (25, 52)	1.4 (1.0, 1.9)
Swaziland	112 (75, 161)	3.9 (2.7, 5.5)	131 (87, 193)	4.0 (2.8, 5.6)
Sweden	1,107 (919, 1,308)	20.6 (16.9, 24.5)	611 (433, 835)	21.3 (17.4, 25.1)
Switzerland	1,063 (886, 1,264)	21.8 (17.9, 25.8)	615 (432, 831)	22.4 (18.5, 26.4)
Syria	1,250 (1,006, 1,559)	35.4 (27.9, 46.5)	2,102 (1,409, 2,948)	37.5 (29.9, 48.7)
Taiwan	12,052 (11,113, 13,069)	288.2 (266.1, 313.5)	5,228 (3,740, 6,922)	293.5 (270.5, 318.6)
Tajikistan	1,307 (1,113, 1,533)	46.8 (39.1, 54.7)	1,282 (881, 1,808)	48.0 (40.4, 56.1)
Tanzania	4,365 (3,434, 5,504)	143.4 (112.1, 180.6)	4,967 (3,316, 7,009)	148.3 (116.3, 186.1)
Thailand	27,334 (22,455, 32,921)	699.1 (566.6, 851.5)	11,318 (7,833, 15,418)	710.5 (577.4, 863.6)
The Bahamas	37 (27, 48)	1.0 (0.7, 1.4)	27 (19, 38)	1.1 (0.8, 1.4)
The Gambia	467 (276, 768)	17.6 (10.0, 28.5)	293 (198, 415)	17.9 (10.2, 28.9)
Timor-Leste	77 (62, 95)	2.4 (1.9, 2.9)	106 (71, 151)	2.5 (2.0, 3.1)
Togo	1,024 (797, 1,291)	36.1 (27.7, 46.8)	1,038 (704, 1,448)	37.1 (28.8, 47.9)
Tonga	22 (17, 27)	0.7 (0.5, 0.9)	14 (10, 20)	0.7 (0.6, 0.9)
Trinidad and Tobago	124 (97, 150)	3.4 (2.6, 4.2)	96 (66, 136)	3.5 (2.7, 4.3)
Tunisia	972 (763, 1,206)	22.2 (17.1, 28.2)	1,246 (843, 1,767)	23.5 (18.2, 29.3)
Turkey	6,768 (5,818, 7,808)	163.2 (137.8, 190.7)	7,871 (5,379, 10,952)	171.1 (146.4, 198.7)
Turkmenistan	1,256 (997, 1,582)	44.6 (34.9, 55.9)	908 (620, 1,261)	45.5 (35.8, 56.9)
Uganda	3,339 (2,711, 4,016)	119.5 (97.1, 145.4)	3,962 (2,662, 5,593)	123.5 (100.6, 149.3)
Ukraine	10,205 (8,321, 11,890)	330.3 (261.7, 390.8)	6,262 (4,252, 8,733)	336.5 (267.7, 397.0)
United Arab Emirates	288 (201, 400)	11.7 (8.2, 16.5)	988 (630, 1,428)	12.7 (9.1, 17.6)
United Kingdom	7,568 (6,690, 8,186)	177.3 (159.6, 191.8)	5,575 (3,963, 7,467)	182.8 (164.6, 198.0)
United States	44,964 (37,087, 54,139)	1,123.4 (926.7, 1,364.2)	24,570 (17,047, 33,380)	1,147.9 (946.8, 1,389.1)
Uruguay	380 (311, 446)	7.5 (6.0, 9.0)	214 (147, 301)	7.7 (6.2, 9.2)
Uzbekistan	7,022 (5,666, 8,662)	246.6 (197.2, 305.8)	5,091 (3,549, 7,133)	251.7 (201.2, 311.0)
Vanuatu	42 (26, 65)	1.6 (1.0, 2.5)	32 (22, 45)	1.6 (1.0, 2.6)
Venezuela	2,230 (1,891, 2,631)	56.4 (46.8, 67.5)	2,037 (1,357, 2,835)	58.4 (48.7, 69.6)
Vietnam	31,489 (24,145, 39,312)	787.0 (577.5, 1,014.6)	14,058 (9,953, 18,952)	801.1 (590.8, 1,029.6)
Yemen	3,050 (1,669, 5,069)	93.9 (49.9, 162.6)	2,872 (1,952, 4,009)	96.7 (52.9, 165.5)
Zambia	1,327 (1,040, 1,628)	47.0 (37.8, 57.1)	1,600 (1,047, 2,249)	48.6 (39.4, 58.8)
Zimbabwe	766 (591, 962)	23.5 (18.3, 29.4)	1,614 (1,070, 2,311)	25.1 (19.9, 30.9)

Table S17: Rates of viral hepatitis deaths, YLLs, YLDs, and DALYs, by country, for 2013.

Country	Deaths (per 100k)	YLLs (per 100k)	YLDs (per 100k)	DALYs (per 100k)
Afghanistan	42.6 (30.9, 56.9)	1,141 (812, 1,576)	15.2 (10.5, 20.8)	1,156 (826, 1,594)
Albania	10.3 (7.4, 14.0)	223 (161, 307)	6.0 (4.1, 8.4)	229 (167, 313)
Algeria	8.4 (7.1, 9.7)	192 (164, 222)	11.6 (8.0, 16.3)	203 (176, 234)
Andorra	5.1 (3.4, 7.2)	110 (73, 158)	5.1 (3.5, 7.0)	115 (78, 163)
Angola	23.7 (17.4, 35.1)	618 (436, 926)	15.4 (10.4, 21.1)	634 (450, 942)
Antigua and Barbuda	8.5 (6.4, 10.9)	207 (157, 273)	6.8 (4.6, 9.3)	214 (163, 280)
Argentina	11.7 (9.7, 13.7)	278 (228, 330)	6.6 (4.5, 9.2)	285 (234, 336)
Armenia	28.9 (25.1, 33.3)	610 (518, 703)	16.6 (11.5, 22.8)	626 (533, 722)
Australia	7.5 (6.1, 8.8)	176 (146, 203)	6.5 (4.4, 9.1)	182 (152, 211)
Austria	12.1 (8.9, 14.8)	283 (200, 361)	11.0 (7.1, 15.9)	294 (209, 374)
Azerbaijan	31.4 (26.7, 37.1)	706 (596, 844)	17.8 (12.3, 24.5)	724 (616, 865)
Bahrain	10.2 (8.2, 12.8)	218 (171, 277)	11.2 (7.6, 15.6)	229 (183, 289)
Bangladesh	35.3 (28.0, 44.1)	1,092 (860, 1,354)	13.2 (9.2, 17.9)	1,105 (872, 1,369)
Barbados	8.2 (6.3, 10.3)	197 (151, 251)	6.5 (4.4, 9.1)	203 (158, 258)
Belarus	14.8 (12.3, 17.5)	469 (386, 556)	10.8 (7.5, 14.9)	480 (396, 568)
Belgium	8.8 (7.2, 11.0)	207 (164, 262)	6.3 (4.2, 8.9)	213 (170, 270)
Belize	13.3 (10.1, 17.6)	337 (251, 461)	7.9 (5.3, 10.8)	345 (258, 469)
Benin	43.2 (35.0, 53.1)	1,131 (888, 1,394)	20.4 (14.3, 28.3)	1,151 (908, 1,415)
Bhutan	23.3 (14.7, 36.3)	696 (408, 1,136)	11.1 (7.6, 15.7)	707 (418, 1,147)
Bolivia	31.1 (23.0, 40.5)	701 (501, 937)	8.0 (5.6, 11.1)	709 (509, 946)
Bosnia and Herzegovina	7.8 (4.6, 10.2)	188 (122, 240)	7.5 (5.1, 10.5)	195 (130, 249)
Botswana	6.6 (4.3, 9.8)	160 (107, 238)	11.9 (7.8, 17.1)	172 (118, 250)
Brazil	12.5 (10.2, 14.9)	310 (257, 375)	6.8 (4.6, 9.2)	317 (263, 381)
Brunei	10.9 (8.5, 13.9)	224 (175, 292)	7.7 (5.3, 10.6)	232 (183, 300)
Bulgaria	12.5 (10.5, 14.7)	337 (276, 398)	10.4 (7.2, 14.5)	347 (285, 408)
Burkina Faso	35.4 (29.2, 43.5)	932 (758, 1,135)	19.4 (13.3, 26.6)	951 (778, 1,154)
Burundi	21.3 (16.4, 27.8)	551 (422, 714)	15.3 (10.4, 21.2)	566 (436, 731)
Cambodia	20.5 (16.4, 24.8)	550 (425, 670)	11.6 (8.1, 16.0)	562 (435, 680)
Cameroon	53.7 (39.6, 71.6)	1,440 (1,059, 1,928)	18.7 (12.6, 25.9)	1,458 (1,078, 1,946)
Canada	6.9 (5.6, 8.1)	158 (130, 186)	4.5 (3.1, 6.3)	162 (134, 190)
Cape Verde	22.8 (15.5, 31.1)	616 (401, 867)	17.8 (12.1, 24.9)	633 (420, 884)
Central African Republic	20.7 (14.9, 27.3)	566 (405, 750)	15.4 (10.4, 21.5)	581 (422, 764)
Chad	32.6 (25.5, 42.5)	874 (674, 1,160)	19.9 (13.7, 27.9)	894 (692, 1,178)
Chile	17.6 (14.3, 20.9)	410 (314, 494)	7.4 (5.0, 10.2)	417 (321, 502)
China	29.9 (26.4, 33.1)	747 (653, 834)	16.3 (11.5, 21.8)	763 (670, 852)
Colombia	11.3 (9.4, 13.5)	221 (182, 265)	9.3 (6.3, 12.8)	230 (192, 275)
Comoros	20.2 (10.2, 30.6)	540 (269, 829)	15.4 (10.3, 21.5)	555 (282, 847)
Congo	27.8 (21.9, 34.4)	713 (559, 900)	15.5 (10.7, 21.4)	729 (574, 917)
Costa Rica	14.2 (12.3, 16.3)	296 (254, 338)	7.7 (5.2, 10.8)	304 (261, 347)
Cote d'Ivoire	37.3 (30.6, 46.2)	933 (751, 1,167)	19.4 (13.2, 27.4)	952 (771, 1,187)
Croatia	14.1 (11.6, 17.0)	347 (286, 425)	9.0 (6.1, 12.5)	356 (295, 435)
Cuba	7.3 (5.9, 8.6)	155 (124, 191)	6.7 (4.5, 9.4)	162 (131, 198)
Cyprus	6.1 (4.9, 7.3)	113 (90, 140)	4.9 (3.3, 6.9)	118 (94, 145)
Czech Republic	10.9 (9.4, 12.5)	278 (237, 323)	8.9 (6.1, 12.4)	287 (244, 333)
Democratic Republic of the Congo	25.9 (20.8, 31.6)	688 (551, 841)	15.4 (10.3, 21.0)	703 (567, 862)
Denmark	11.0 (9.3, 12.8)	277 (230, 327)	6.7 (4.6, 9.3)	284 (237, 334)
Djibouti	23.7 (16.1, 36.6)	593 (391, 934)	16.2 (11.1, 22.8)	610 (408, 948)
Dominica	8.9 (6.7, 11.8)	223 (166, 294)	6.8 (4.6, 9.6)	230 (172, 301)
Dominican Republic	19.4 (15.6, 24.6)	415 (329, 543)	8.1 (5.6, 11.1)	423 (336, 552)
Ecuador	19.0 (15.6, 22.9)	412 (329, 513)	7.6 (5.2, 10.4)	420 (336, 521)
Egypt	109.3 (97.2, 122.6)	2,460 (2,164, 2,802)	19.5 (13.6, 26.9)	2,479 (2,182, 2,821)

Table S17 (continued): Rates of viral hepatitis deaths, YLLs, YLDs, and DALYs, by country, for 2013.

Country	Deaths (per 100k)	YLLs (per 100k)	YLDs (per 100k)	DALYs (per 100k)
El Salvador	17.3 (14.2, 20.8)	406 (324, 500)	8.4 (5.8, 11.7)	415 (332, 509)
Equatorial Guinea	19.2 (10.7, 32.2)	522 (289, 879)	16.0 (11.1, 22.4)	538 (306, 895)
Eritrea	20.9 (13.9, 29.2)	547 (363, 753)	15.1 (10.2, 21.0)	562 (378, 769)
Estonia	10.3 (8.6, 11.8)	298 (248, 342)	9.7 (6.7, 13.5)	308 (255, 352)
Ethiopia	21.6 (17.5, 25.9)	551 (445, 652)	13.6 (9.4, 19.0)	565 (460, 666)
Federated States of Micronesia	22.7 (14.7, 34.4)	699 (428, 1,113)	14.7 (9.8, 20.3)	714 (442, 1,129)
Fiji	18.0 (15.0, 21.4)	540 (444, 656)	14.0 (9.8, 19.3)	554 (456, 672)
Finland	10.8 (8.5, 12.9)	291 (218, 356)	8.1 (5.6, 11.3)	299 (225, 366)
France	12.0 (9.3, 14.4)	279 (217, 339)	7.6 (5.2, 10.6)	287 (224, 348)
Gabon	31.3 (24.3, 39.5)	826 (640, 1,035)	16.1 (11.0, 22.1)	842 (655, 1,053)
Georgia	20.5 (17.1, 24.0)	544 (440, 654)	16.0 (10.9, 22.6)	560 (456, 673)
Germany	10.4 (8.0, 12.4)	249 (185, 300)	7.2 (4.8, 10.0)	256 (191, 308)
Ghana	33.3 (26.5, 41.8)	859 (680, 1,071)	19.4 (13.2, 26.9)	879 (699, 1,095)
Greece	6.8 (5.6, 8.7)	142 (113, 174)	5.8 (3.8, 8.1)	148 (119, 181)
Grenada	11.5 (9.6, 14.1)	296 (240, 370)	7.3 (5.0, 10.1)	303 (248, 380)
Guatemala	24.7 (20.7, 29.0)	623 (502, 750)	9.3 (6.5, 12.8)	633 (509, 758)
Guinea	51.9 (39.5, 65.5)	1,419 (1,062, 1,847)	22.8 (15.3, 31.5)	1,442 (1,085, 1,874)
Guinea-Bissau	45.4 (30.5, 68.4)	1,244 (831, 1,915)	20.6 (13.9, 28.9)	1,264 (851, 1,936)
Guyana	17.1 (12.2, 23.4)	481 (342, 675)	7.9 (5.4, 10.9)	489 (351, 684)
Haiti	18.6 (15.4, 22.2)	424 (349, 512)	7.9 (5.4, 10.9)	432 (356, 520)
Honduras	14.4 (10.3, 19.7)	308 (212, 441)	7.8 (5.4, 10.9)	316 (221, 448)
Hungary	18.7 (15.5, 22.1)	524 (426, 626)	12.1 (8.4, 16.7)	536 (437, 639)
Iceland	2.8 (2.2, 3.5)	54 (44, 68)	4.0 (2.7, 5.6)	58 (48, 73)
India	22.5 (19.0, 27.0)	684 (575, 857)	11.6 (8.0, 15.8)	696 (587, 869)
Indonesia	17.9 (14.5, 21.3)	475 (378, 573)	10.5 (7.3, 14.5)	486 (388, 584)
Iran	8.5 (7.2, 9.9)	193 (162, 229)	8.2 (5.7, 11.3)	201 (170, 238)
Iraq	13.0 (10.0, 16.1)	317 (240, 402)	12.8 (8.8, 17.3)	330 (252, 415)
Ireland	5.6 (4.6, 6.7)	131 (103, 163)	5.5 (3.7, 7.7)	136 (108, 169)
Israel	6.9 (5.8, 8.1)	136 (112, 159)	4.6 (3.2, 6.5)	141 (116, 164)
Italy	14.8 (12.4, 18.1)	298 (242, 365)	9.0 (6.3, 12.2)	307 (251, 373)
Jamaica	6.8 (5.4, 8.3)	157 (123, 198)	5.7 (3.9, 7.8)	163 (129, 203)
Japan	19.7 (16.3, 25.6)	389 (306, 526)	8.3 (5.9, 11.5)	397 (313, 535)
Jordan	9.4 (7.7, 11.3)	195 (156, 238)	10.4 (7.0, 14.3)	205 (166, 249)
Kazakhstan	36.0 (30.7, 42.7)	1,035 (872, 1,236)	19.4 (13.6, 26.5)	1,054 (893, 1,256)
Kenya	15.6 (11.8, 19.5)	379 (288, 474)	11.2 (7.7, 15.5)	390 (299, 488)
Kiribati	28.0 (20.6, 36.9)	921 (660, 1,228)	14.6 (9.8, 20.6)	935 (676, 1,241)
Kuwait	11.7 (9.9, 13.4)	225 (192, 253)	12.1 (8.3, 16.8)	237 (203, 265)
Kyrgyzstan	47.0 (40.3, 53.6)	1,366 (1,152, 1,580)	21.2 (14.7, 28.9)	1,387 (1,172, 1,602)
Laos	23.2 (14.9, 36.7)	633 (384, 1,051)	15.6 (10.5, 21.8)	649 (398, 1,067)
Latvia	8.9 (7.7, 10.2)	264 (223, 307)	8.7 (5.9, 12.0)	273 (231, 316)
Lebanon	10.3 (8.3, 12.9)	208 (161, 267)	11.5 (7.8, 16.0)	220 (172, 279)
Lesotho	10.8 (8.0, 13.9)	297 (230, 377)	12.8 (8.8, 17.9)	310 (241, 392)
Liberia	41.6 (33.5, 50.7)	1,052 (839, 1,302)	20.2 (14.0, 27.9)	1,072 (859, 1,325)
Libya	18.0 (13.5, 23.4)	388 (290, 504)	13.5 (9.1, 18.7)	401 (302, 519)
Lithuania	14.0 (11.6, 16.5)	444 (367, 527)	11.2 (7.6, 15.8)	455 (378, 541)
Luxembourg	11.4 (9.1, 13.7)	265 (206, 321)	9.2 (6.4, 13.0)	274 (215, 331)
Macedonia	6.8 (5.7, 8.1)	167 (138, 197)	7.1 (4.9, 9.8)	174 (144, 205)
Madagascar	22.3 (16.4, 28.9)	570 (410, 749)	18.3 (12.4, 26.1)	588 (430, 768)
Malawi	17.7 (13.4, 22.2)	476 (376, 588)	16.0 (11.0, 22.4)	492 (390, 606)
Malaysia	16.7 (14.5, 19.3)	376 (330, 430)	9.3 (6.5, 12.6)	385 (339, 438)

Table S17 (continued): Rates of viral hepatitis deaths, YLLs, YLDs, and DALYs, by country, for 2013.

Country	Deaths (per 100k)	YLLs (per 100k)	YLDs (per 100k)	DALYs (per 100k)
Maldives	8.6 (7.2, 10.4)	158 (133, 187)	10.7 (7.2, 15.3)	169 (143, 199)
Mali	54.5 (44.0, 67.1)	1,524 (1,236, 1,869)	23.8 (16.3, 31.8)	1,548 (1,255, 1,899)
Malta	5.3 (4.3, 6.4)	117 (91, 146)	4.7 (3.2, 6.5)	122 (95, 151)
Marshall Islands	25.0 (17.6, 34.3)	786 (544, 1,087)	14.8 (9.8, 21.3)	801 (559, 1,103)
Mauritania	41.0 (32.8, 49.5)	1,070 (804, 1,345)	20.5 (14.3, 28.3)	1,090 (824, 1,368)
Mauritius	17.9 (14.1, 21.4)	487 (376, 594)	12.5 (8.3, 17.2)	499 (387, 607)
Mexico	24.4 (23.3, 25.6)	562 (535, 592)	8.7 (6.1, 11.9)	570 (543, 602)
Moldova	43.5 (36.9, 49.7)	1,172 (995, 1,345)	14.5 (9.9, 20.2)	1,187 (1,008, 1,359)
Mongolia	153.4 (133.0, 176.5)	3,428 (2,944, 3,974)	34.3 (24.4, 45.7)	3,462 (2,978, 4,013)
Montenegro	7.4 (6.0, 9.1)	172 (139, 212)	6.9 (4.7, 9.5)	179 (146, 219)
Morocco	27.8 (23.0, 34.1)	475 (390, 580)	13.6 (9.5, 18.5)	488 (403, 593)
Mozambique	16.8 (13.6, 20.5)	443 (364, 538)	16.8 (11.3, 23.6)	460 (381, 556)
Myanmar	53.0 (33.2, 80.9)	1,451 (850, 2,350)	16.0 (10.8, 22.4)	1,467 (864, 2,367)
Namibia	7.3 (5.2, 9.4)	190 (138, 247)	10.7 (7.0, 14.9)	201 (149, 259)
Nepal	15.2 (12.0, 18.9)	432 (335, 571)	8.5 (5.9, 11.7)	441 (343, 580)
Netherlands	5.9 (4.6, 6.8)	124 (102, 145)	4.8 (3.4, 6.7)	129 (106, 151)
New Zealand	5.5 (4.6, 6.4)	120 (102, 140)	6.2 (4.3, 8.7)	126 (107, 146)
Nicaragua	19.5 (17.1, 22.1)	426 (363, 491)	7.9 (5.5, 10.6)	434 (370, 501)
Niger	37.8 (30.8, 44.7)	991 (809, 1,182)	21.0 (14.2, 29.3)	1,012 (827, 1,202)
Nigeria	27.3 (20.2, 35.4)	703 (530, 909)	17.2 (11.7, 23.7)	720 (544, 929)
North Korea	47.3 (38.0, 58.2)	1,272 (1,010, 1,587)	19.0 (13.2, 26.2)	1,291 (1,027, 1,607)
Norway	4.5 (3.7, 5.3)	100 (80, 119)	5.4 (3.8, 7.6)	106 (85, 125)
Oman	17.6 (13.7, 21.2)	400 (304, 496)	13.3 (9.2, 18.4)	413 (317, 512)
Pakistan	29.9 (23.4, 38.1)	884 (686, 1,121)	13.0 (9.1, 17.8)	897 (700, 1,136)
Palestine	16.3 (12.9, 20.7)	379 (295, 490)	13.5 (9.2, 18.5)	393 (308, 504)
Panama	9.7 (8.1, 11.3)	199 (164, 237)	7.3 (5.0, 10.1)	206 (171, 246)
Papua New Guinea	49.9 (31.0, 73.6)	1,594 (977, 2,440)	15.8 (10.9, 21.9)	1,610 (990, 2,460)
Paraguay	9.9 (7.8, 12.3)	226 (176, 288)	6.6 (4.5, 9.2)	233 (182, 295)
Peru	18.7 (15.0, 23.2)	400 (314, 508)	7.4 (5.1, 10.1)	408 (321, 515)
Philippines	20.2 (16.0, 25.0)	528 (409, 676)	13.4 (9.3, 18.6)	541 (423, 689)
Poland	10.9 (9.2, 12.8)	296 (239, 350)	10.3 (7.0, 14.4)	306 (248, 362)
Portugal	11.7 (9.0, 14.1)	303 (230, 368)	7.1 (4.8, 9.8)	311 (236, 376)
Qatar	12.8 (10.4, 15.1)	237 (192, 284)	12.4 (8.5, 17.3)	249 (205, 298)
Romania	21.1 (17.1, 24.6)	537 (442, 623)	13.5 (9.1, 18.4)	551 (454, 638)
Russia	14.8 (12.5, 17.3)	466 (389, 551)	11.0 (7.6, 15.2)	477 (400, 563)
Rwanda	18.9 (13.7, 24.6)	460 (328, 606)	15.0 (10.1, 20.5)	475 (341, 622)
Saint Lucia	8.9 (6.8, 11.1)	216 (165, 276)	7.0 (4.7, 9.9)	223 (172, 283)
Saint Vincent and the Grenadines	9.8 (7.8, 12.4)	249 (197, 319)	7.1 (4.8, 10.0)	256 (203, 326)
Samoa	19.6 (15.4, 25.3)	538 (420, 691)	15.5 (10.4, 21.7)	553 (433, 708)
Sao Tome and Principe	36.3 (23.4, 49.3)	945 (561, 1,316)	17.0 (11.4, 24.1)	962 (577, 1,334)
Saudi Arabia	20.9 (17.5, 25.8)	329 (268, 409)	11.2 (7.9, 15.4)	340 (279, 421)
Senegal	39.1 (31.5, 48.1)	1,020 (803, 1,259)	19.6 (13.6, 26.8)	1,040 (823, 1,281)
Serbia	7.4 (6.2, 8.8)	176 (150, 209)	7.4 (5.0, 10.2)	184 (157, 217)
Seychelles	15.3 (11.9, 18.9)	437 (327, 553)	11.9 (8.0, 16.9)	449 (339, 564)
Sierra Leone	48.0 (38.0, 59.8)	1,275 (1,000, 1,619)	20.9 (14.5, 29.1)	1,296 (1,017, 1,640)
Singapore	11.1 (8.8, 13.5)	219 (172, 273)	7.5 (5.2, 10.3)	226 (178, 280)
Slovakia	13.6 (10.6, 16.4)	370 (283, 453)	10.8 (7.3, 15.1)	381 (293, 465)
Slovenia	12.5 (10.2, 15.1)	314 (255, 380)	7.7 (5.3, 10.7)	321 (261, 390)
Solomon Islands	27.1 (17.7, 40.7)	856 (532, 1,347)	17.3 (11.8, 24.6)	873 (550, 1,368)
Somalia	19.6 (12.3, 30.0)	516 (313, 813)	14.0 (9.5, 19.1)	530 (329, 829)

Table S17 (continued): Rates of viral hepatitis deaths, YLLs, YLDs, and DALYs, by country, for 2013.

Country	Deaths (per 100k)	YLLs (per 100k)	YLDs (per 100k)	DALYs (per 100k)
South Africa	9.5 (8.0, 11.4)	246 (207, 296)	9.1 (6.1, 12.6)	255 (215, 306)
South Korea	31.0 (26.6, 37.6)	732 (622, 899)	12.6 (8.7, 17.5)	744 (633, 914)
South Sudan	21.9 (16.2, 28.6)	582 (435, 756)	16.0 (11.1, 22.3)	598 (450, 774)
Spain	12.5 (10.5, 15.3)	271 (224, 332)	7.1 (5.0, 10.1)	278 (230, 340)
Sri Lanka	13.1 (9.3, 16.1)	367 (248, 463)	9.0 (6.1, 12.5)	376 (256, 472)
Sudan	27.4 (17.5, 42.3)	636 (408, 996)	16.1 (11.0, 22.1)	652 (421, 1,012)
Suriname	11.6 (8.8, 14.8)	291 (211, 386)	7.3 (4.9, 10.0)	298 (218, 394)
Swaziland	18.6 (12.3, 27.5)	498 (335, 723)	13.0 (8.7, 18.8)	511 (347, 735)
Sweden	6.8 (5.6, 8.0)	145 (118, 173)	5.2 (3.6, 7.1)	150 (122, 178)
Switzerland	8.2 (6.9, 9.8)	185 (152, 218)	6.0 (4.2, 8.2)	192 (158, 225)
Syria	11.3 (9.1, 13.6)	256 (203, 325)	11.3 (7.7, 15.5)	267 (214, 335)
Taiwan	40.5 (37.4, 43.9)	957 (884, 1,039)	18.5 (13.1, 24.3)	976 (901, 1,059)
Tajikistan	29.8 (25.3, 34.9)	813 (685, 952)	18.8 (13.0, 26.3)	832 (704, 972)
Tanzania	20.7 (16.2, 26.3)	517 (404, 653)	13.5 (9.2, 18.9)	531 (416, 666)
Thailand	36.8 (30.4, 44.2)	876 (714, 1,064)	15.1 (10.5, 20.5)	891 (726, 1,083)
The Bahamas	10.5 (7.9, 13.3)	265 (194, 351)	7.1 (4.9, 9.8)	272 (201, 357)
The Gambia	59.6 (37.4, 92.6)	1,741 (1,024, 2,877)	23.8 (16.2, 33.7)	1,764 (1,044, 2,910)
Timor-Leste	16.4 (13.3, 20.2)	418 (332, 521)	12.6 (8.5, 17.6)	430 (344, 534)
Togo	35.4 (28.1, 44.5)	912 (706, 1,152)	20.3 (14.1, 28.0)	932 (726, 1,173)
Tonga	29.8 (23.7, 37.1)	876 (682, 1,133)	15.9 (10.9, 22.5)	892 (698, 1,150)
Trinidad and Tobago	9.0 (7.2, 10.9)	232 (178, 283)	6.9 (4.7, 9.7)	239 (185, 291)
Tunisia	11.0 (8.6, 13.5)	224 (172, 281)	11.5 (7.8, 16.2)	235 (183, 292)
Turkey	11.2 (9.6, 12.9)	246 (209, 286)	10.9 (7.4, 15.1)	257 (220, 297)
Turkmenistan	35.7 (29.0, 44.5)	1,028 (818, 1,288)	19.1 (13.1, 26.4)	1,048 (834, 1,310)
Uganda	24.3 (19.7, 29.5)	632 (505, 768)	15.0 (10.3, 20.7)	647 (518, 784)
Ukraine	16.4 (13.3, 19.2)	568 (444, 672)	11.7 (8.1, 16.3)	580 (456, 685)
United Arab Emirates	16.8 (11.4, 22.0)	353 (241, 476)	12.9 (8.6, 18.0)	366 (253, 489)
United Kingdom	8.0 (7.2, 8.7)	212 (192, 230)	7.3 (5.1, 9.8)	220 (199, 238)
United States	10.5 (8.7, 12.6)	275 (228, 332)	6.6 (4.6, 9.0)	281 (234, 339)
Uruguay	8.4 (6.9, 10.0)	187 (147, 224)	5.8 (4.0, 8.1)	192 (152, 230)
Uzbekistan	35.5 (28.9, 43.6)	1,039 (834, 1,278)	19.1 (13.3, 26.4)	1,058 (850, 1,299)
Vanuatu	26.1 (17.1, 39.9)	823 (511, 1,289)	14.5 (9.8, 20.3)	837 (523, 1,307)
Venezuela	10.3 (8.8, 12.1)	228 (191, 271)	7.2 (4.9, 10.0)	235 (197, 278)
Vietnam	41.3 (31.7, 51.3)	958 (712, 1,228)	16.2 (11.6, 21.8)	974 (728, 1,248)
Yemen	32.6 (18.3, 52.4)	770 (416, 1,292)	15.9 (11.0, 21.9)	786 (433, 1,309)
Zambia	23.5 (17.9, 29.4)	626 (488, 772)	15.1 (10.2, 21.1)	641 (503, 787)
Zimbabwe	11.5 (8.7, 14.7)	273 (209, 346)	14.0 (9.4, 20.0)	287 (222, 359)

Appendix C: Data Sources

C.1: Cirrhosis prevalence data by country

Austria

1. Federal Ministry of Health (Austria), Statistics Austria. Austria Hospital Inpatient Discharges 1989 – 2010. Vienna, Austria: Statistics Austria.

Brazil

2. Ministry of Health (Brazil). Brazil Hospital Information System 2006 –2009. Rio de Janeiro, Brazil: Ministry of Health (Brazil).

Canada

3. Canadian Institute for Health Information (CIHI). Canada Discharge Abstract Database 1994 –2010. Ottawa, Canada: Canadian Institute for Health Information (CIHI).

Ecuador

4. National Institute of Statistics and Censuses (Ecuador). Ecuador Hospital Inpatient Discharges 1997 –2011. Quito, Ecuador: National Institute of Statistics and Censuses (Ecuador).

Belgium

5. WHO Regional Office for Europe (EURO-WHO). European Hospital Morbidity Database 2003 – 2009. Copenhagen, Denmark: WHO Regional Office for Europe (EURO-WHO).

Croatia

6. WHO Regional Office for Europe (EURO-WHO). European Hospital Morbidity Database 2002 – 2011. Copenhagen, Denmark: WHO Regional Office for Europe (EURO-WHO).

Cyprus

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Czech Republic

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Denmark

9. WHO Regional Office for Europe (EURO-WHO). European Hospital Morbidity Database 2003 – 2006. Copenhagen, Denmark: WHO Regional Office for Europe (EURO-WHO).

Finland
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Iceland
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Israel
12. WHO Regional Office for Europe (EURO-WHO). European Hospital Morbidity Database 1999 – 2009. Copenhagen, Denmark: WHO Regional Office for Europe (EURO-WHO).

Italy
13. WHO Regional Office for Europe (EURO-WHO). European Hospital Morbidity Database 2002 – 2010. Copenhagen, Denmark: WHO Regional Office for Europe (EURO-WHO).

Latvia
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Lithuania
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Luxembourg
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Malta
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Netherlands
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Norway
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Poland
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Portugal
21. WHO Regional Office for Europe (EURO-WHO). European Hospital Morbidity Database 2004 – 2008. Copenhagen, Denmark: WHO Regional Office for Europe (EURO-WHO).

Slovakia
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Slovenia
23. WHO Regional Office for Europe (EURO-WHO). European Hospital Morbidity Database 2004 – 2009. Copenhagen, Denmark: WHO Regional Office for Europe (EURO-WHO).

Spain
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Sweden
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Switzerland
26. WHO Regional Office for Europe (EURO-WHO). European Hospital Morbidity Database 2002 – 2010. Copenhagen, Denmark: WHO Regional Office for Europe (EURO-WHO).

United Kingdom
27. NHS England. United Kingdom - England Hospital Episode Statistics 2002 – 2012.

United States
28. National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention (CDC), US Census Bureau. United States National Hospital Discharge Survey 1979 – 2010. Hyattsville, United States: National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention (CDC).

C.2: Cirrhosis aetiology data

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Czech Republic

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Egypt

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Ethiopia

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Gabon

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India

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C.3: Anti-HAV seroprevalence data by country

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C.4: HBsAg seroprevalence data by country

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C.5: Anti-HCV seroprevalence data

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C.6: Anti-HEV Seroprevalence

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C.7: Liver cancer aetiology data

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